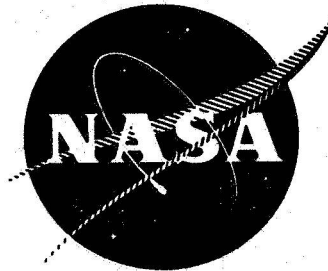


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REMOTE LIFT FAN STUDY PROGRAM

VOLUME IV

by

GENERAL ELECTRIC COMPANY
ADVANCED ENGINEERING & TECHNOLOGY PROGRAMS DEPARTMENT
AIRCRAFT ENGINE GROUP
Cincinnati, Ohio 45215

for

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NASA-Lewis Research Center
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Contract NAS3-14406
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16. Abstract This report is the fourth volume of the final technical report presenting results of a study program to select and conduct preliminary design of advanced technology lift fan systems to meet low noise goals of future V/STOL transport aircraft. This volume contains results of additional studies conducted to support the main preliminary design effort done under the Remote Lift Fan Study Program (Contract NAS3-14406) and a companion effort, the Integral Lift Fan Study (NAS3-14404). These results cover engine emission study, a review of existing engines for research aircraft application and support data for aircraft studies.			
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FOREWORD

This is Volume IV of a five volume Technical Report presenting results under the Remote Lift Fan Engine Study Program (Contract NAS3-14406) conducted by General Electric for the NASA-Lewis Research Center during the time period June, 1971 to August, 1972. This effort was performed as part of an extension to the original contract which was initiated in September, 1970, and also includes work content related to Contract NAS3-14404.

Major objectives of the program are:

- The execution of a conceptual and preliminary design study of advanced technology remote lift fan engines.
- The identification of high bypass, low noise engine configurations for application to future V/STOL transport aircraft.
- Support AMES research and commercial aircraft studies.

The tasks reported herein include:

- Engine Emission Study
- Aircraft Studies Support Information
- Research Airplane Engine Survey

Other Tasks under the Contract were reported in NASA CRs 120970, 120971, and 120972. Section III E., pages 45 through 69 are reported in Volume V CR 121278.

A comparison Integral Lift Fan Engine Study (Contract NAS3-14404) was conducted for NASA-Lewis Research Center during the same time period as the Remote Lift Fan Engine Study and is reported in NASA CR 120969.

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SECTION I

INTRODUCTION AND SUMMARY

Under the initial tasks of the Remote Lift Fan Study Program, General Electric conducted studies for the NASA-Lewis Research Center on advanced technology lift fan engines. These studies resulted in the selection and preliminary design of two alternative low noise remote lift fan systems for application to future V/STOL commercial transport aircraft. Coincident with these remote fan studies, an Integral Lift Fan Study (NAS3-14404) was also conducted to provide a basis for evaluation and comparison of the two alternative lift engine approaches.

Following completion of the engine designs these studies were extended, in response to NASA's request, to include the following additional activities:

- Definition of a low tip speed fan rotor design for an integral fan engine
- A gas ducting design study for application to remote fan engines
- A study of engine emissions
- Provision of support information for the aircraft studies being conducted by the NASA-Ames aircraft contractors
- Generation of lift engine economic information
- A review of currently available engines to establish suitability as possible alternative research airplane powerplants

The first two items above were reported in the final technical reports on the engine designs for the ILF and RLP engines, respectively. Results of the remaining items are presented in this report.

ENGINE EMISSIONS

Several alternative combustor configurations were investigated for the ILF reverse flow combustor to control carbon monoxide and unburned hydrocarbon emissions at the idle condition. Included were a two-stage system, a variable blockage flow control system, and a fluidic control system. All of the designs appeared to be capable of providing the required high combustion efficiency levels and low emissions.

Both the turbojet and turbopan gas generators for the RLF systems incorporate double annular combustors, providing a considerable degree of idle emission control by allowing the fuel flow to one of the annuli to be shut off. Additional control may also be provided by variable blockage of the center diffuser passage or by variable, thermostatically controlled throttle plates.

Nitrogen oxide levels were estimated using a recently constructed analytical model utilizing mixing rates set to provide agreement with available engine combustor data. Predicted emission levels at the nominal lift condition exceeded objective levels for the RLF system utilizing the turbojet gas generator and also for the ILF engine B. Approaches offering the potential for lower nitrogen oxide levels, as well as CO and H/C emissions, are discussed.

AIRCRAFT STUDIES SUPPORT

Engine Performance

Additional ILF and RLF engine system studies were conducted under this task in support of the Ames Contractor V/STOL studies. For the RLF systems, estimated installed V/STOL and internal cruise performance were furnished for systems incorporating the 1.25 pressure ratio lift unit. System A utilized the turbojet gas generator, and System C utilized the turbofan. V/STOL performance was generated for flight velocities up to 150 knots at altitudes to 2000 feet, and includes a range of power settings and fan exit louver angles. Cruise performance covers Mach numbers to 0.9 and altitudes to 40,000 feet.

Double Size RLF Lift Unit

Based on input from the aircraft company studies, the scaling range of the 1.25 pressure ratio lift unit was extended from 1.5 to 2.0. The double size design was essentially scaled up from the reference configuration; however, trade-off investigations of acoustic treatment alternatives showed an advantage in changing from four fan exit splitters to five. The final design has a 500-foot sideline noise level equal to that of the reference size lift unit. Weight, configuration, and performance scaling factors were determined from the double size fan.

RLF INLET ACOUSTIC SUPPRESSION

The effects of inlet noise suppression treatment were determined for a cruise fan configuration of RLF System A (turbojet/1.25 pressure ratio lift unit). A representative inlet/nacelle configuration was utilized to allow evaluation of performance changes for a range of suppression levels and configuration alternatives. Final results showed that gas generator inlet noise suppression is less costly in terms of system performance than cruise fan inlet noise suppression.

Commercial Aircraft Noise Contours

Noise footprints were calculated for each of three proposed commercial aircraft configurations. The individual characteristics of each aircraft, including take-off profile, engine location, engine thrust size, and thrust scheduling were accounted for using information supplied by the respective

aircraft companies. Results indicate that a total system noise exposure criteria might be appropriate as opposed to a single-point sideline noise objective. (Note that copies of this report going to aircraft companies will include only results pertaining to that specific company's aircraft design.)

Control Performance and Transient Response Studies

Studies have shown the desirability of combining the V/STOL aircraft attitude control system with the main thrust-producing propulsion components. The combination of these two functions necessitates definition of applicable design requirements. Although general types of design criteria can be established, specific requirements can only be obtained through detailed integrated aircraft propulsion system studies and tests. Assumed characteristics and tentative transient requirements are presented.

Advanced RLF Systems Using Turbofan Gas Generators

A proposed control system specifically applicable to turbofan gas generators was investigated. A method of modulating power using a particular combination of burner temperature rise and control valve pressure loss allows modulation of lift unit thrust with no change in gas generator operating conditions. This type of system eliminates the contribution of the gas generator from the overall system transient response and is capable of meeting the requirement for an effective time constant of 0.2 second.

RESEARCH AIRPLANE ENGINE SURVEY

Existing General Electric turbine engines were surveyed as possible alternative powerplants for the Ames Research V/STOL aircraft studies. Turbojet and turboshaft engines were evaluated, and their characteristics as RLF system gas generators were determined. Unsupercharged turbofan cores were also investigated with the turbine temperature reduced proportionately to provide the same turbine flow function as the normal supercharged fan version. Finally, the characteristics of air pump compressors which could be obtained by using the front stages of existing compressors were evaluated. Survey results showed that the LF460/YJ97-GE-100 remained the most suitable propulsion system for the research aircraft.

SECTION II

ENGINE EMISSION STUDY

A. INTRODUCTION

In conventional turbojet combustors the combustion efficiency is low at idle conditions, and carbon monoxide (CO) and unburned hydrocarbon (H/C) emission levels become significant. Under this task several alternative combustor designs were investigated to achieve good efficiency and low emissions at idle. All of the designs presented should allow achievement of low emissions without penalizing performance at high power settings (at the expense, however, of increased complexity).

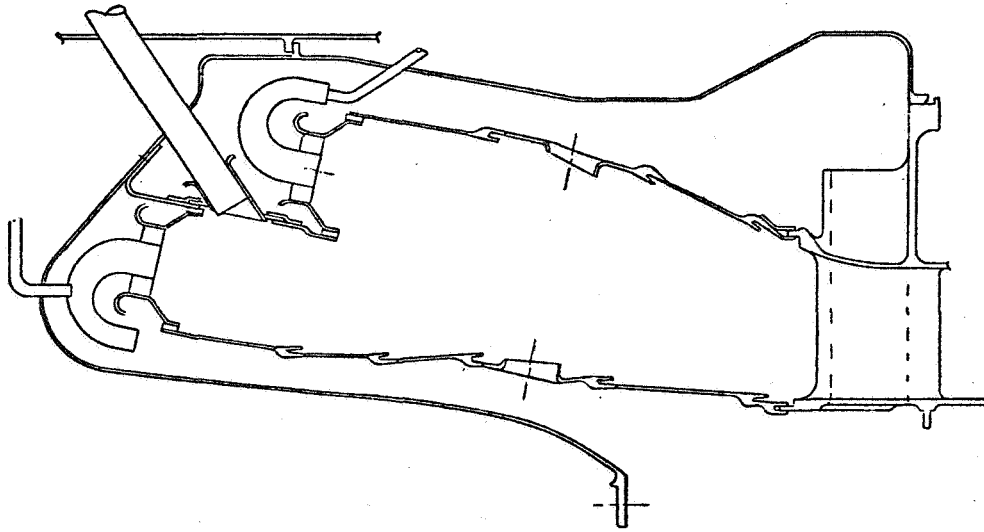
Emissions of the oxides of nitrogen (NO_x) become significant at high power settings. These emissions increase with increasing combustor inlet temperature and pressure, and approach objective-limiting levels for the combustors under investigation at the nominal lift conditions.

B. COMBUSTOR CONFIGURATIONS FOR ILF

Several alternative configurations were investigated for the Integral Lift Fan Configuration which incorporates a reverse flow combustor. A two-stage combustion system designed to control idle emissions (CO and H/C) by admitting fuel only to the inner dome at the idle power setting is shown in Figure 1. This permits the inner dome to operate at nearly stoichiometric values of fuel-air ratio at idle, which results in high combustion efficiency and low emissions at this condition. As the throttle is advanced, the fuel-air ratio in the inner annulus, or first stage, remains constant; and, fuel is introduced into the outer annulus, or second stage, to increase the combustor temperature rise, as required.

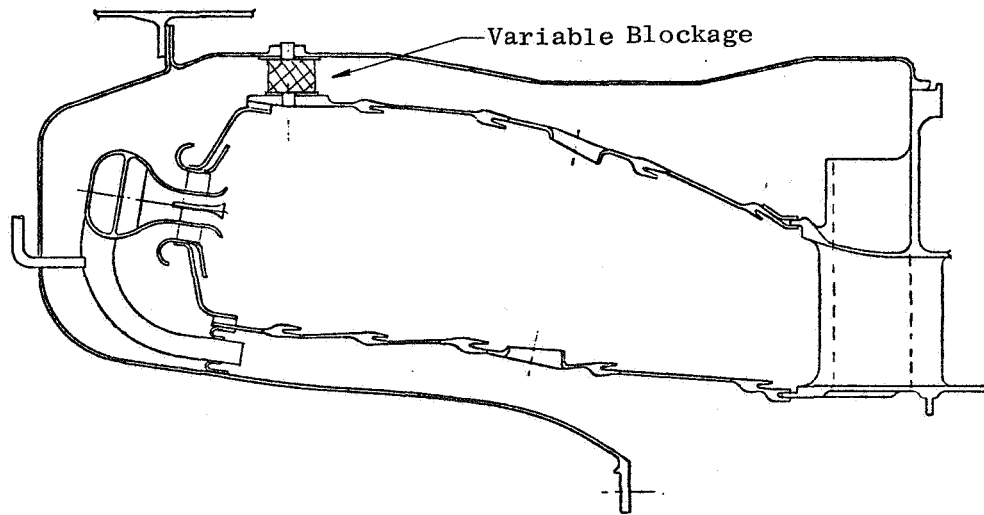
A variable blockage flow control system is illustrated in Figure 2. The blockage system is located on the outer liner of the burner near the dome end. At the idle power setting, the blockage area would be reduced to reduce the dome airflow, increasing the fuel-air ratio in the primary zone to near stoichiometric levels (which would increase the combustion efficiency and reduce emissions). As the throttle is advanced, the blockage would open up to admit more air to the combustor dome, which would maintain high combustion efficiency levels at all power settings.

A fluidic control system is illustrated in Figure 3. The outer liner airflow, which passes through the turbine stator vanes, enters the plenum chamber of a fluidic flow divider. The flow divider directs the air to the combustor dome or to the outer secondary dilution holes dependent on the small amount of airflow from the ventilation holes in the inner and outer step regions. At the idle power setting, the flow to the inner ventilation holes is cut off and the outer step is ventilated, which diverts most of the outer liner airflow to the secondary dilution holes and reduces the flow to the primary zone of the



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Figure 1. Staged Reverse Flow Combustor.



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Figure 2. Reverse Flow Combustor with Variable Flow Control Blockage.

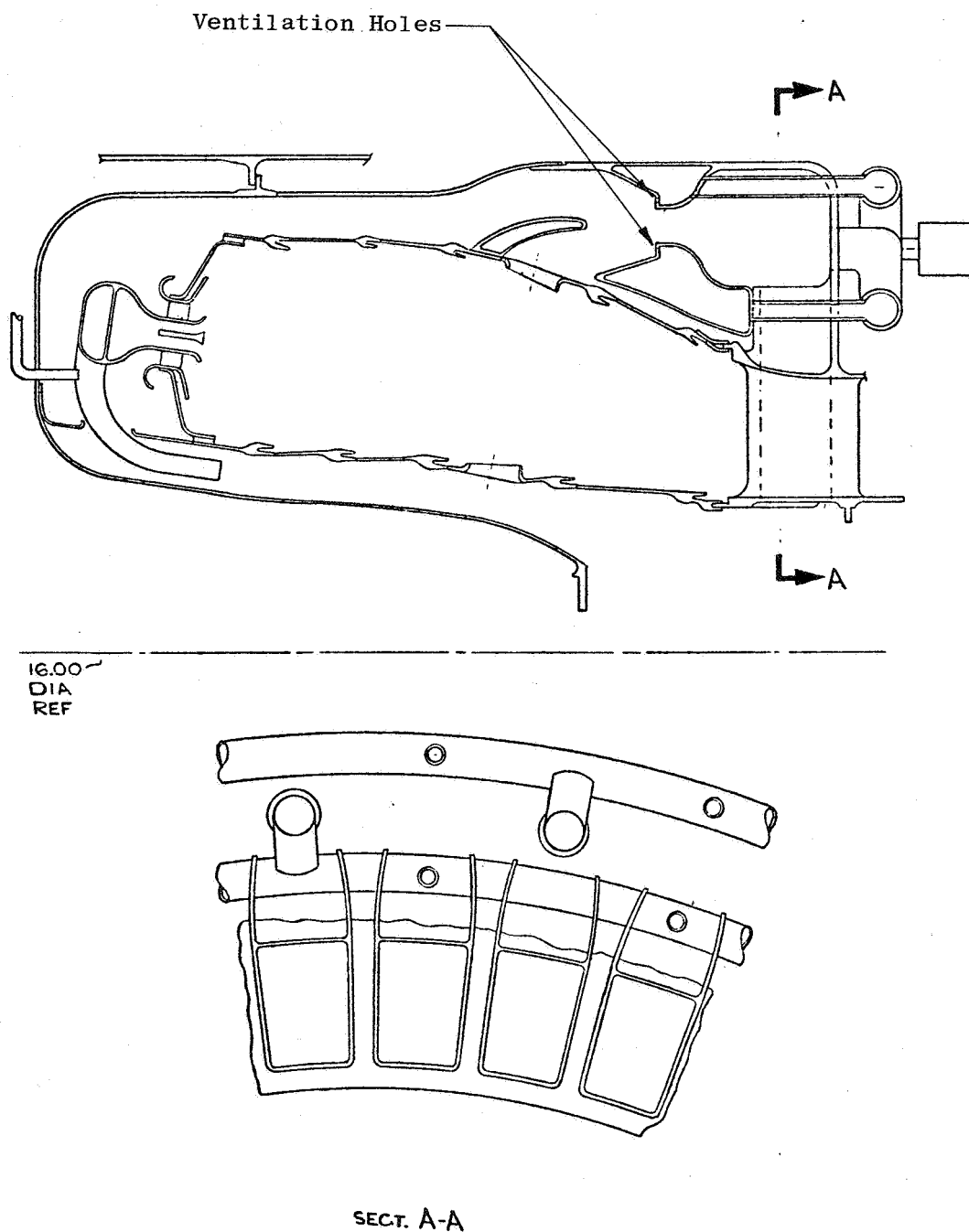


Figure 3. Reverse Flow Combustor with Fluidic Flow Control.

combustor. This results in higher combustion efficiency and reduced emissions at idle conditions. At a predetermined throttle setting, the outer liner flow is switched to the dome end of the burner by ventilating the inner step and cutting off the flow to the outer ventilation holes. This provides high combustion efficiency at the high thrust power settings.

C. COMBUSTOR CONFIGURATIONS FOR RLF

A double annular combustion system for a Remote Lift Fan engine configuration is shown in Figure 4. A considerable degree of idle emission control can be obtained by shutting off the fuel flow to one annulus at idle conditions. However, additional control is provided in this design by variable blockage area at the exit plane of the center diffuser passage. Flow area would be reduced at the idle condition to provide a nearly stoichiometric fuel-air ratio in the burner primary zone, which would increase combustion efficiency and reduce idle emissions. As the engine throttle is advanced, the flow area would be increased to provide the correct stoichiometry and high combustion efficiency at all operating conditions.

This same degree of control is provided by the thermostatic throttle plates illustrated in Figure 5; but, for this configuration, an external actuation system is not required. The position of the throttle plates is a function of the temperature of the bimetallic strips that support the plates. At idle conditions, when the temperature of the compressor discharge air is low, the throttle plates are closed and airflow to the primary zone of the burner is reduced. As engine speed increases, the compressor discharge temperature increases, and the throttle plates open up to admit more air to the primary zone. This operation automatically provides the correct airflow to the primary zone of the burner, providing high combustion efficiency and low emissions throughout the operating range of the engine.

D. OXIDES OF NITROGEN

The nitrogen oxide levels to be expected in the proposed Integral and Remote Lift engines, have been estimated with the help of a recently constructed analytical model for nitrogen oxide formation in combustors, as well as from available experimental data on nitrogen oxide emissions from engines.

The analytical model utilizes chemical kinetic calculations for the nitrogen oxide generation process, assuming equilibrium concentrations of free radicals. Starting with a fuel-rich combustion gas mixture, the gas is diluted with compressor discharge value. The primary influences on the nitrogen oxide level are the combustor inlet temperature and pressure. For initial calculations, the mixing rates in the combustor model were set to provide agreement with available engine data on nitrogen oxide emissions.

Utilizing the analytical model, estimates were made for the nitrogen oxide emission levels of the Remote Lift System Turbojet and Turbofan gas generators and lift unit duct combustors at standard and hot day operating conditions and

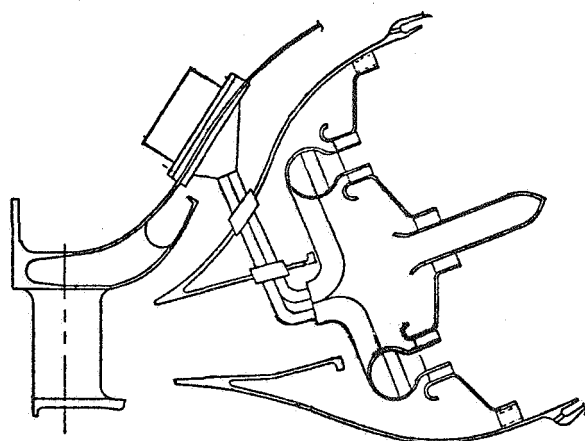
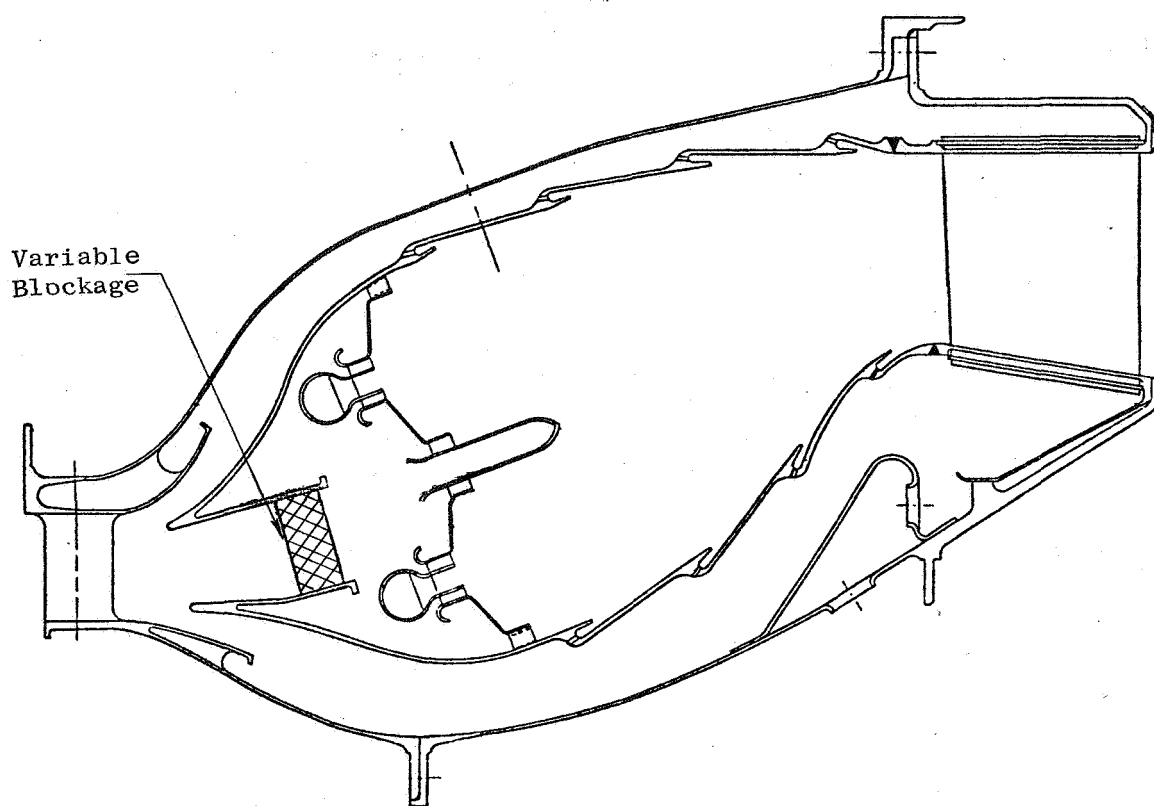


Figure 4. Double Annular Combustor with Variable Flow Control Blockage.

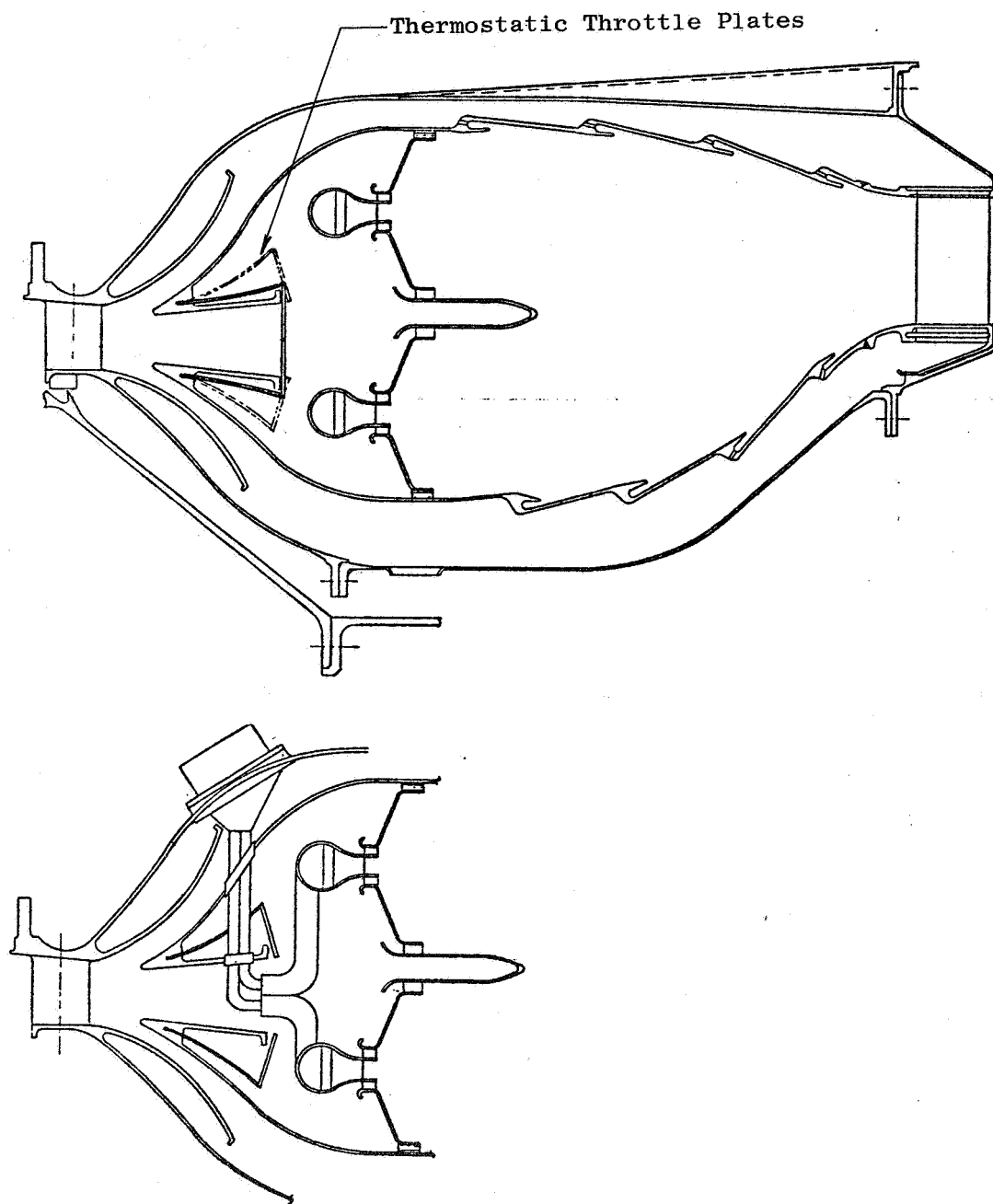


Figure 5. Double Annular Combustor with Thermostatic Throttle Plate Flow Control.

for the Integral Lift Fans A and B at hot day conditions. In Figure 6 are presented the predictions for the Remote Lift Fan System incorporating a turbojet gas generator. The predicted emission level at the nominal lift condition (10,000 lbs lift) is 8.2 lbs of NO_2 /1000 lbs of fuel. This compares with an objective level of 4.6 lbs NO_2 /1000 lbs of fuel or 3.0 lbs NO /1000 lbs of fuel. For hot day conditions, higher combustion inlet temperatures occur at the same lift force resulting in significantly increased nitrogen oxide formation rates. In Figure 7 are presented the predictions for the Remote Lift System incorporating the turbofan gas generator. The design point pressure ratio of the turbojet system was 14:1; for the turbofan system, the design point cycle pressure ratio of 3.6:1. These lower pressure ratios help to limit the nitrogen oxide levels. In addition to the emission levels from each combustor, the combined emission from the two streams is also shown on the figure. The predicted level for the nominal lift condition, for the combined airflow of main combustor and lift unit combustors, does not exceed the objective level.

Predictions for the Integral Lift Fan Engine A and Engine B at hot day conditions are presented in Figure 8. These engines have design cycle pressure ratios of 10:1 and 7:1.

Analyses have identified two useful methods for reducing the nitrogen oxide levels. The levels will be reduced if the flame temperatures are reduced, or if the mixing rates are increased in the combustor in the regions where nitrogen oxide formation occurs, resulting in shorter hot gas residence times. The flame temperature can be reduced by injecting water into the primary zone region. This is the only method thus far identified with the capability for adequately reducing the high nitrogen oxide levels of very high pressure ratio engines (above 20:1). However, for these lift engines, which operate at lower pressure ratios, adjustment in mixing rates may be adequate for limiting nitrogen oxide emissions to the desired levels. The use of short combustors should produce faster mixing rates and should result in decreased nitrogen oxide formation relative to longer combustors. The combustors proposed for these lift engines are all short compared with the configurations used for model calibration and should, therefore, offer the potential for lower nitrogen oxide levels than the levels shown in Figures 6 through 8.

Prediction of the difference in mixing rates between two combustors having different geometries is complex; at present, only very simplified approximations are available. One such approximation is to assume that the residence time for any portion of the nitrogenoxide formation process is proportional to the overall combustor residence time, and that this is related to the parameter (combustor/length/reference velocity). In Table I, this parameter is shown for each lift engine compared with the calibration engine. If it is assumed that the nitrogen oxide formation rates are proportional to this residence time parameter, then the overall emission level will also be almost exactly proportional. Using this basis for estimating the possible effects of the short combustors, new emission levels were calculated and are shown in the table. If the nitrogen oxide levels are, in fact, reduced to the full extent indicated by this calculation, then the emission levels for all of these engines would be below the objective levels. Since the local mixing is controlled by factors other than residence time alone, the actual levels are expected to be between the levels

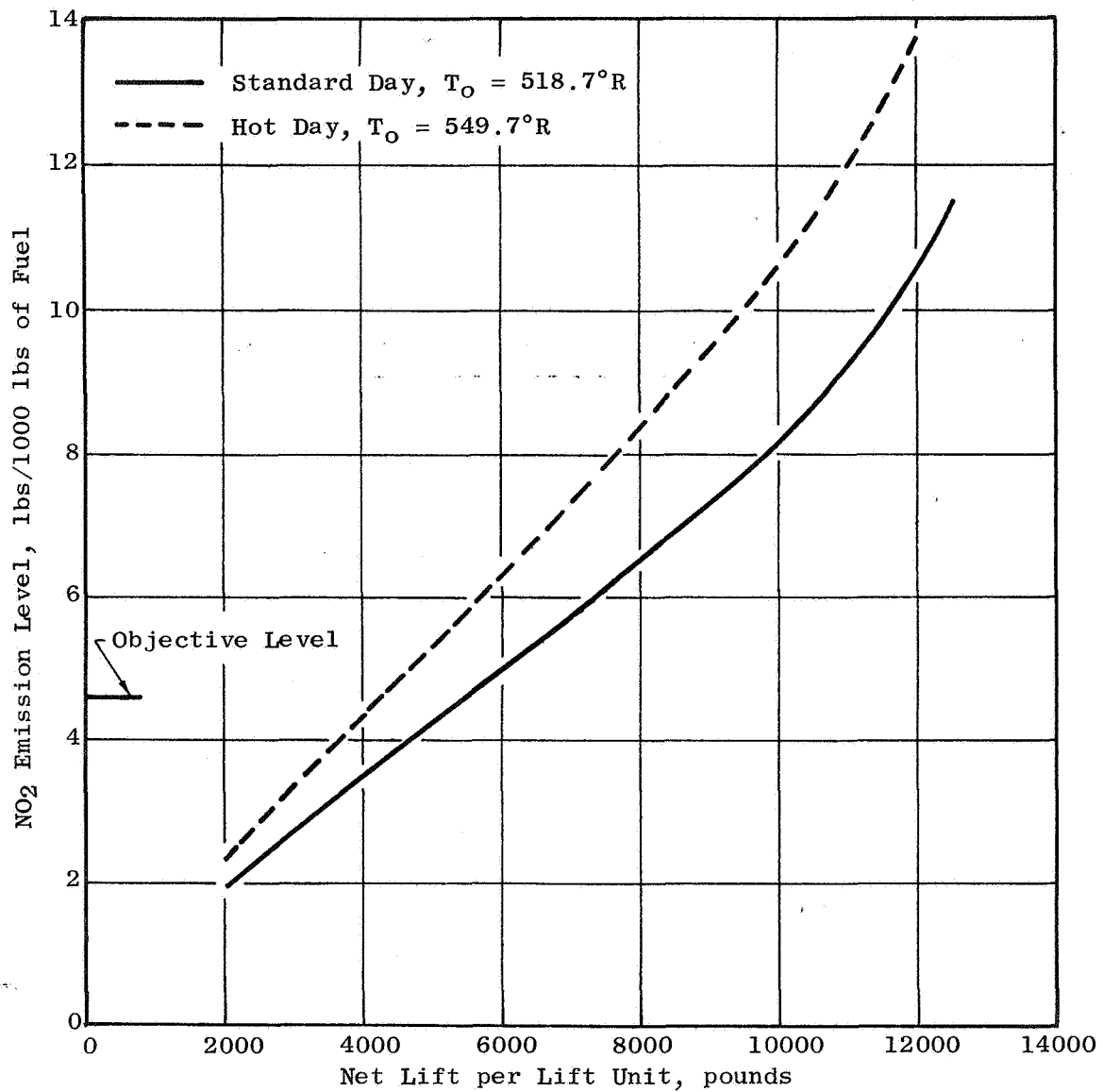


Figure 6. Nitrogen Dioxide Emission for Remote System with Turbojet Gas Generator.

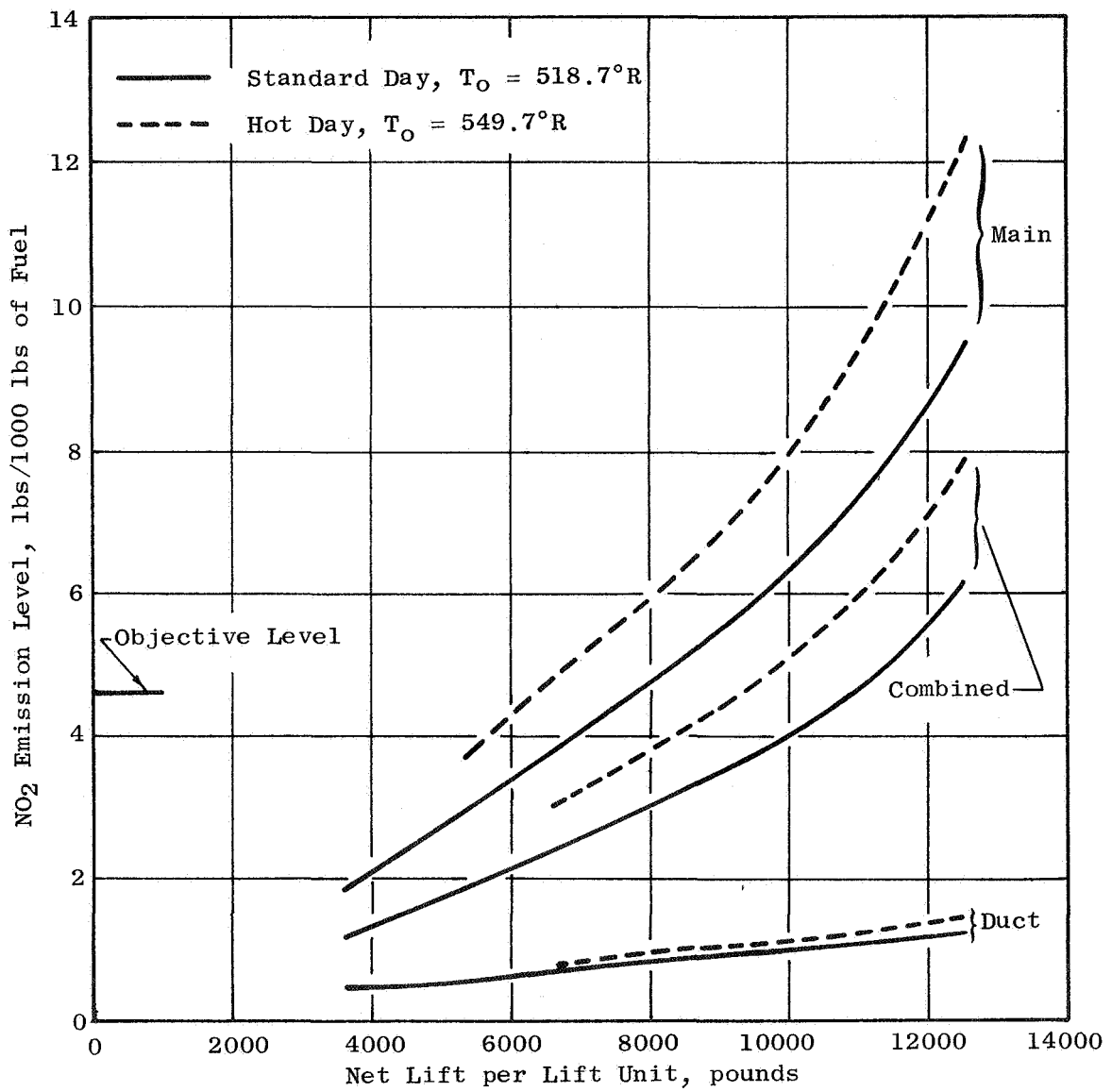


Figure 7. Nitrogen Dioxide Emission for Remote System with Turbofan Gas Generator.

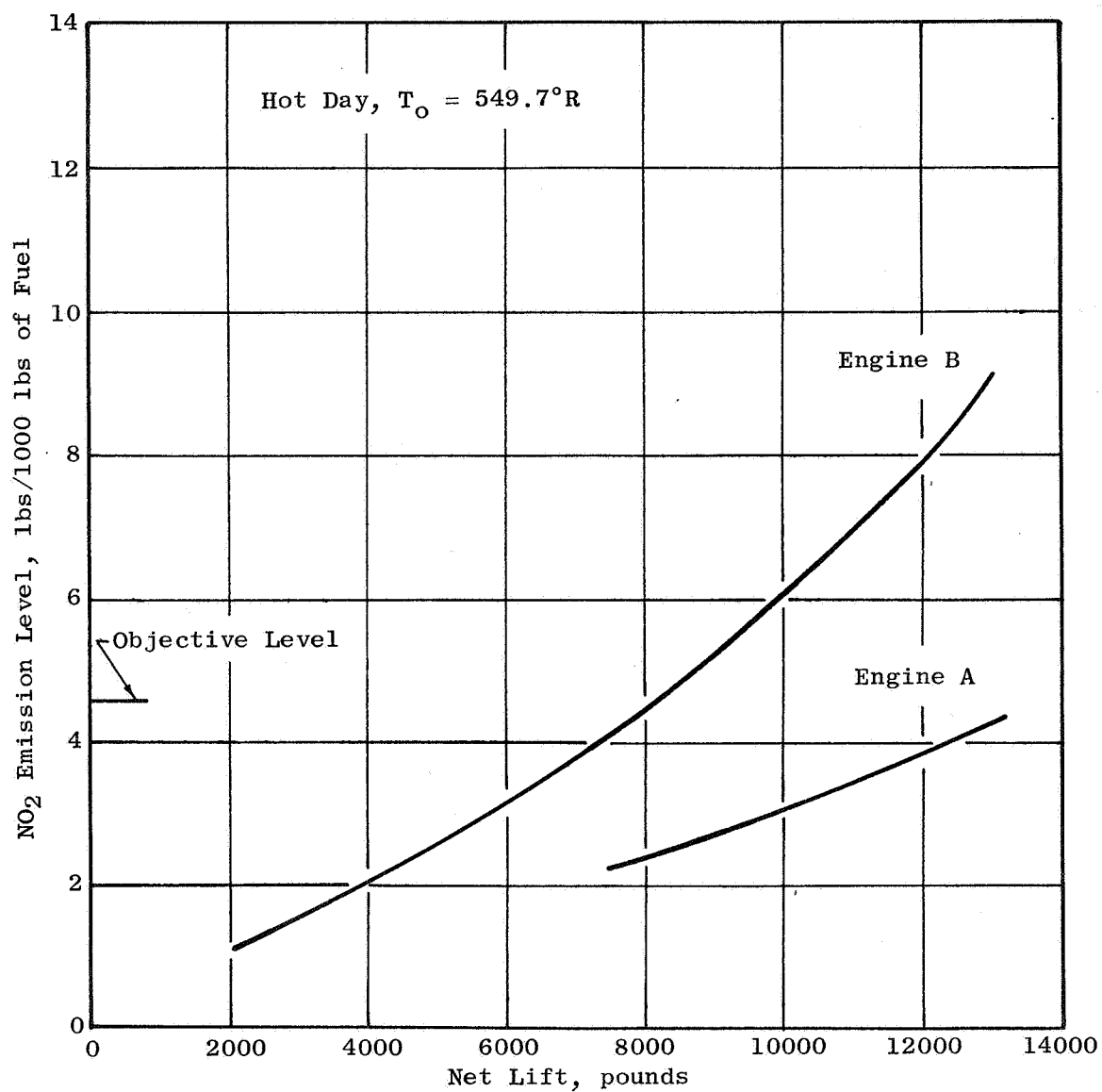


Figure 8. Nitrogen Dioxide Emission for Integral Lift Fan Engines.

Table I. Effect of Residence Time Criteria on Nitrogen Oxide Emissions (at Nominal Take-off Conditions).

	Residence Time Criteria (Combustor Length/ Reference Velocity) Milliseconds	NO ₂ Based on Reference		Maximum NO ₂ Based on	
		Combustor Geometry Mixing Rates, lbs NO ₂ /1000 lbs fuel	Reduced Residence Time Criteria, lbs NO ₂ /1000 lbs fuel		
Reference Combustor	17.7	---	---	---	---
Remote Lift Turbojet	7.2	8.2	3.3		
	---	10.6	4.3		
Remote Lift Turbofan, Mainburner, Std Day	7.7	6.3	2.8		
	---	8.0	3.5		
Integral Lift Engine A	9.2	6.1	3.3		
Integral Lift Engine B	9.5	3.0	1.6		

calculated for the two different residence times; and, some of these engines may initially exceed the objective emission levels. However, the initial emission levels will be close enough to objectives, that modifications to attain the desired levels should be achievable with a reasonable development effort.

E. COMBUSTION EFFICIENCY EFFECTS

The CO and H/C levels shown in Figure 9 are interrelated. A high CO value is accompanied by a low H/C value. The wide band is due to the fact that various combinations of CO and H/C values are possible at a given level of combustion efficiency. This split between CO and H/C will be dependent on a given engine design and must be established through test measurements.

As indicated by Figure 10, the RLF and ILF engines (which are characterized by low pressure ratio cycles) will, in general, have low idle combustion efficiency and high idle emission levels unless special design features are used to increase the idle efficiency.

Several design approaches may be taken to reduce idle emissions. These include:

- Improved Fuel Atomization
- Locally Richer Mixtures in Primary Zone
- Decreased Primary Zone Airflow
- Elimination of Fuel Quenching
- Increased Dome Residence Time and Mixing

Experimental test data also show that idle emission levels can be reduced by bleeding air from the compressor discharge station. This is illustrated in Figure 11.

F. SMOKE EMISSION

The low pressure ratio carbureting combustion systems proposed for the RLF and ILF are not expected to have smoke emission problems. The SAE 1179 smoke number will be below 15 percent for all of these designs, as shown in Figure 12.

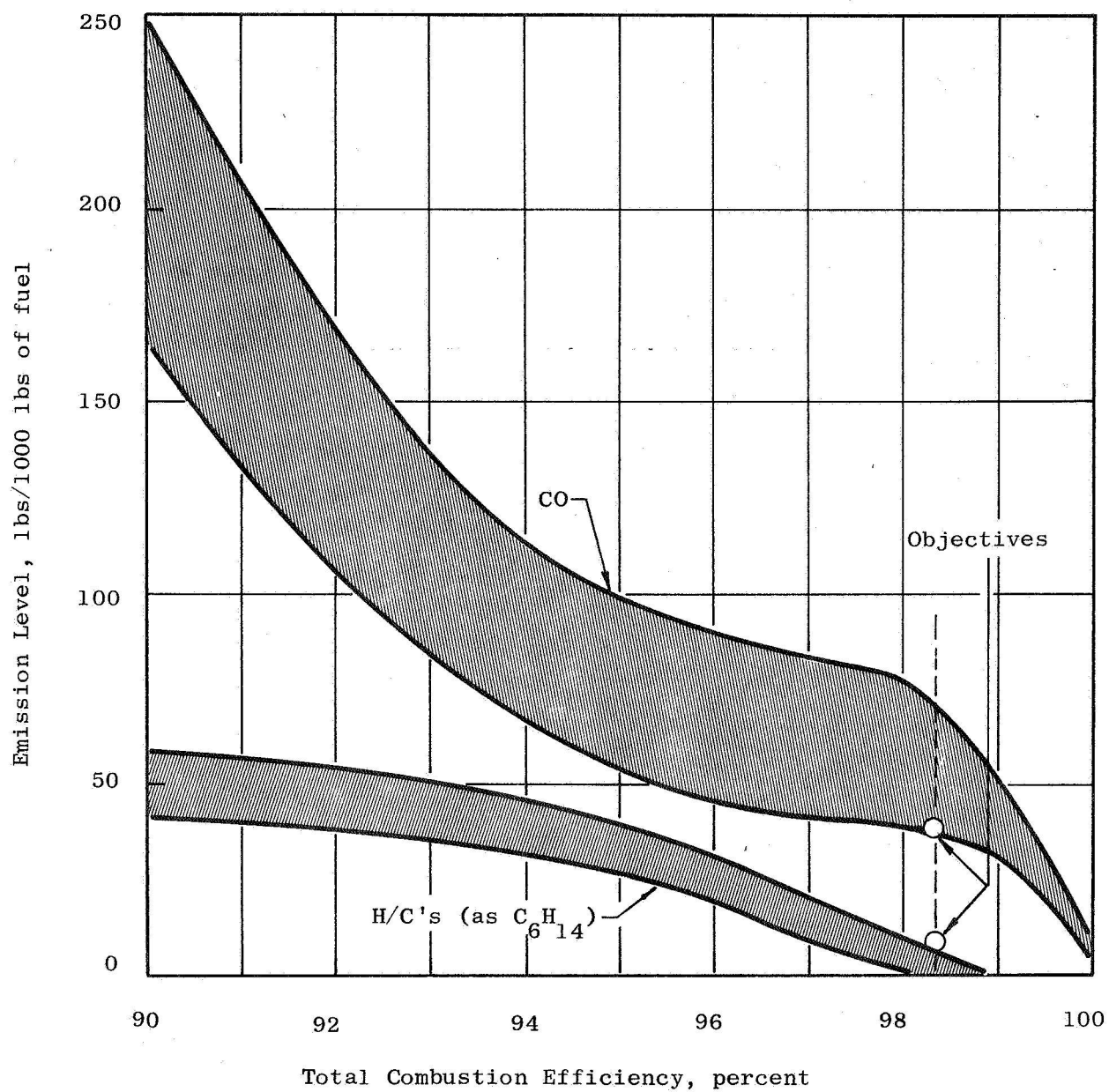


Figure 9. Typical Relationships between Combustion Efficiency and Levels of CO and H/C Emissions.

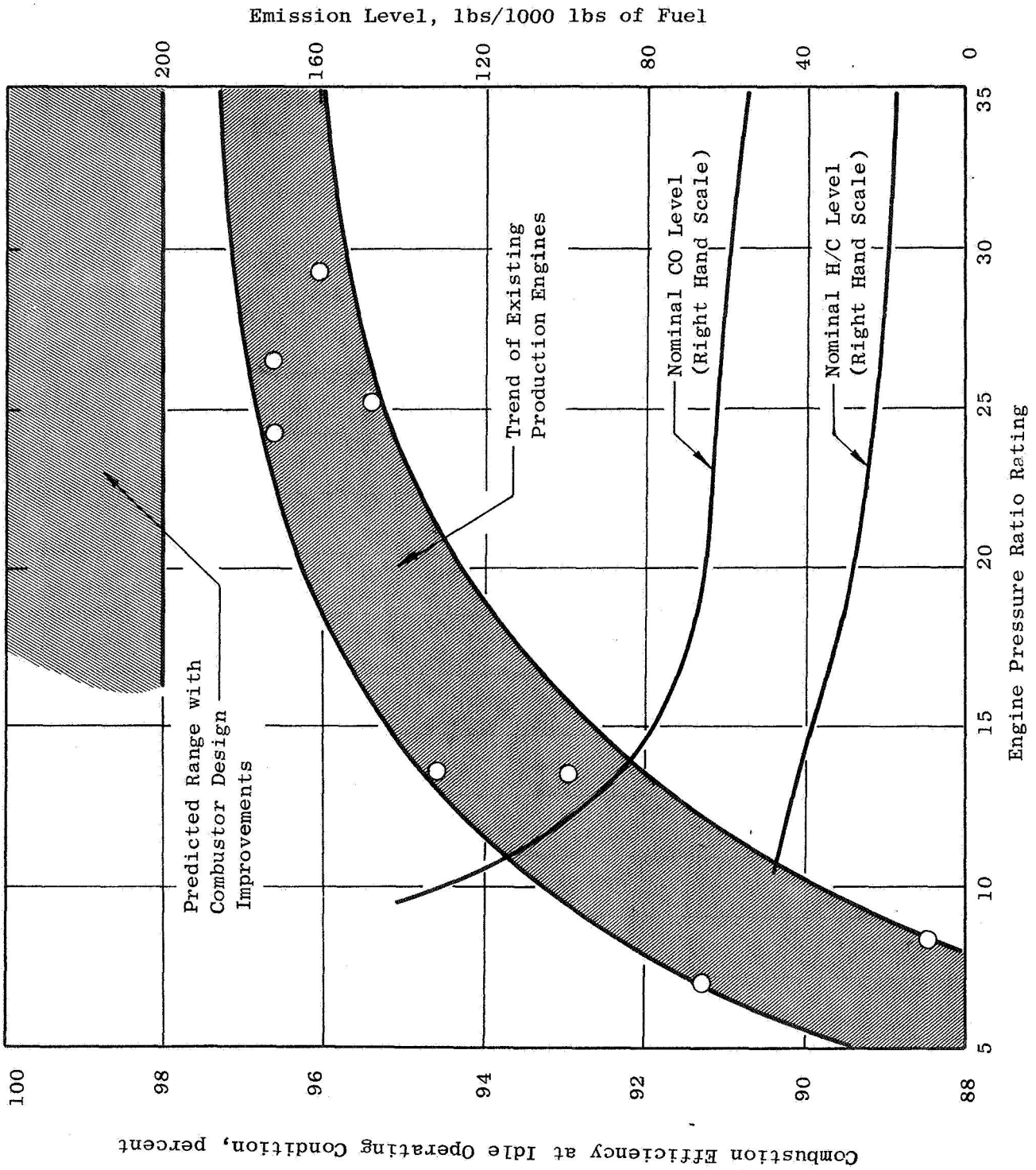


Figure 10. Idle Combustion Efficiency Performance Trends.

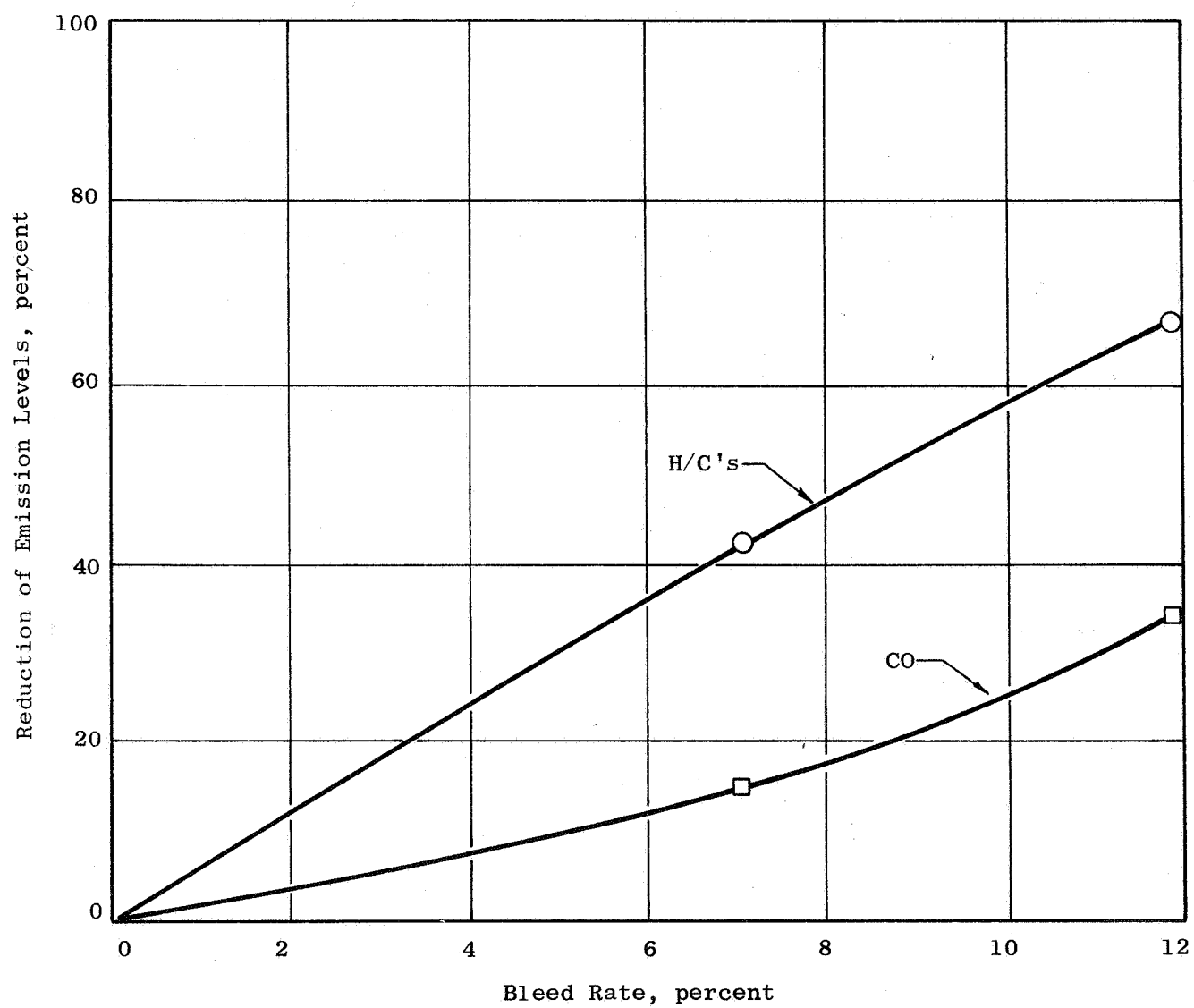


Figure 11. Effect of CDP Bleed Extraction on Emissions at Ground Idle.

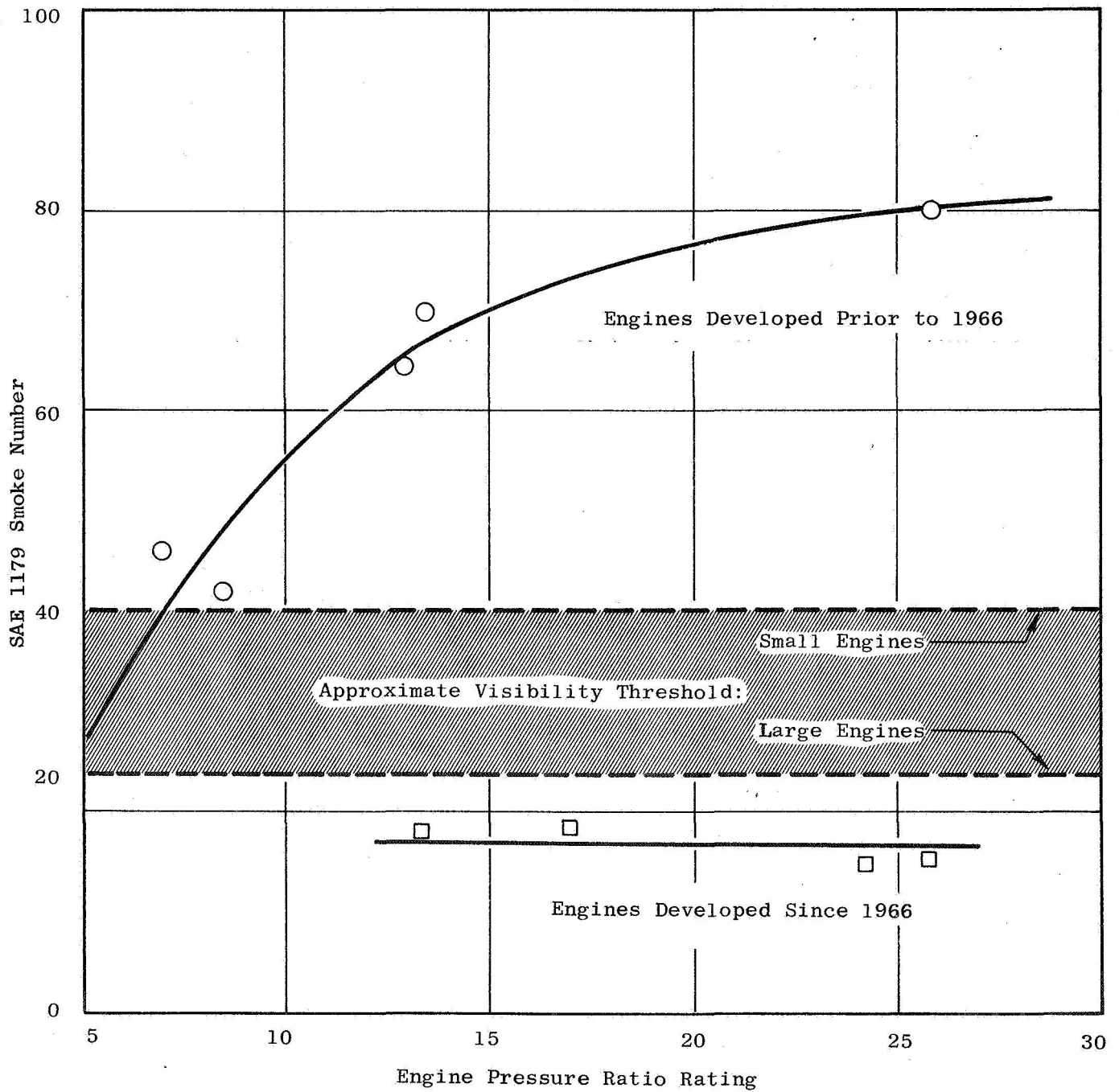


Figure 12. Comparison of Peak Engine Smoke Emission Characteristics.

SECTION III

AIRCRAFT STUDIES SUPPORT INFORMATION

A. INTRODUCTION

Additional ILF and RLF engine system studies required to support the Ames Contractor V/STOL studies were included under this task. General information on engine system installation parameters, performance, and noise characteristics were determined, in addition to providing data in response to specific contractor requests.

B. RLF SYSTEM PERFORMANCE

1. Turbojet System

Estimated installed V/STOL performance was determined for the Remote Lift Fan System incorporating the turbojet gas generator and 1.25 pressure ratio lift units (designed System A). The data (presented in Appendix A) were generated for flight velocities up to 150 knots at altitudes from 0 to 2000 feet and include a range of power settings and fan exit louver angles. The data are for a system to provide 10,000 lbs nominal lift per lift unit, uninstalled, at sea level static. System reference size is based on two lift units per gas generator assuming a 10 percent pressure drop in the interconnecting duct system. The gas generator flow rates shown in the data are one half those of the reference configuration because of computer printout limitations. Resultant thrust vector angles shown are based on zero degree angle of attack. Performance is presented for a shallow inlet type installation with representative exit louver performance.

Estimated System A internal cruise performance is shown in Appendix B. Data are presented for a range of flight Mach numbers up to 0.9 and altitudes to 40,000 feet.

The configuration and weight for these system components are based on V/STOL mode life requirements. Possible design changes which might be required to satisfy cruise mode requirements are not determined. Maximum power level shown in the Appendix B data was arbitrarily defined as 100 percent corrected fan speed.

Based on feedback from the contractor studies, additional cruise data were generated at selected flight conditions to provide increased thrust levels. These data, generated for 105 percent corrected fan speed, are shown in Appendix C. Again, the effect of cruise mode operation on system weight and life were not assessed.

2. Turbofan System

Following submittal of initial system installation and performance data to the aircraft contractors participating in the advanced transport studies,

it was found that none of the installation studies showed any advantage to using the 1.20 pressure ratio lift unit. Therefore, additional performance data were not generated for the turbofan/1.2 pressure ratio lift unit system. Instead, turbofan system performance was based on the 1.25 pressure ratio lift unit scaled to provide a total system nominal life of 10,000 lbs (including the turbofan gas generator residual thrust). This system was designated System C.

V/STOL mode performance for System C is presented in Appendix D for the same flight conditions as System A. Cruise mode performance is shown in Appendix E with maximum power set by 100 percent corrected lift unit fan speed.

C. DOUBLE SIZE RLF LIFT UNIT

Based on aircraft study requirements, the scaling range of the 1.25 pressure ratio lift unit was extended from 1.5 to 2.0. The gas generator scaling range was not extended correspondingly because the aircraft studies all tended to use an equal number of gas generators and fans, for which the existing scaling range was sufficient.

The "2 x lift unit" design is basically scaled up from the reference size design. However, it was not scaled directly. Mid-box height was set at a minimum value of 2.25 inches, and the acoustic splitter thickness was held constant at 1 inch. After a trade-off investigation, it was also determined that there would be an advantage if a fifth sound suppression splitter were incorporated. As a result of these factors, the flow size to provide 2 x lift was 1326.6 lb/sec, a factor of 1.984 on reference size airflow.

The noise level of the "2 x lift unit" is the same as reference size, 99 PNdB (94.8 PNdB without inlet-radiated noise). This noise level was obtained by the addition of the fifth splitter. For the five-splitter configuration, the second and fourth splitters (the ones on either side of the middle splitter) do not extend through the fan stator blade row. The leading edge of these splitters is located immediately downstream of the stator vane trailing edge. This reduces the fan aerodynamic losses relative to splitters which extend into the vane row. This configuration also resulted in lower weight than the four-splitter configuration to provide the same noise level. If four splitters were utilized with length scaled directly with diameter, the noise level increased to 101 PNdB. Splitter length must be increased eight inches to achieve 99 PNdB with four splitters. The combination of longer splitters, longer rear frame, and required increased safety shielding, resulted in a lift unit weight 33 lbs heavier for the four-splitter configuration than for the five-splitter configuration.

A comparison of the noise levels associated with alternative design approaches is shown in Table II. In the table, the maximum perceived noise levels on a 500-foot sideline at the 90-degree microphone location for 6

Table II. Noise Level Comparison for Scaled Remote Lift Fans.

- 120000 Pounds Total Thrust
- Vertical Takeoff
- 500 Foot Sideline
- 90° Microphone

Noise Source	Reference Size Lift Unit (10000 lbs Lift)		Double Size Lift Unit (20000 lbs Lift)			
	• 12 Engines		• 6 Engines			
	With Fan Inlet	W/O Fan Inlet	Configuration Scaled Directly		Configuration with Equal Fan Exhaust Suppression	Configurations with 99 PNdB Total System Noise Level 4 Splitters 5 Splitters
Fan Unsuppressed (PNdB)	111.1	111.1	With Fan Inlet	W/O Fan Inlet	With Fan Inlet	With Fan Inlet
Fan Inlet (PNdB)	94.6	-	97.2	-	97.2	97.2
Suppressed Fan Inlet (PNdB)	93.3	93.3	97.3	97.3	95.9	90.4
Fan Inlet Plus Suppressed Fan Exhaust (PNdB)	97.0	93.3	100.3	97.4	99.6	98.1
Floor (Jet Plus Turbine)(PNdB)	90.9	90.9	90.9	90.9	90.9	90.9
Total System (PNdB)	99.0	96.3	101.0	98.6	100.4	99.2
No. of Splitters	4	4	4	4	4	5
Splitter Length (inches)	8	11	11	12.5	19	11
Change in Fan Exhaust Suppression Relative to Reference Configuration (PNdB)	-	-1.5	-	0	+ 7.5	+ 5.5

scaled remote lift fans (120,000 pounds total thrust) are compared to the noise levels from 12 reference size (10,000 lbs thrust per fan) remote lift fans. In the initial comparison, the lift unit was scaled directly from the reference size by a factor of 2, with the resulting splitter treatment length increasing from 8 to 11 inches. To keep the floor noise level (which is composed of fan jet, tip turbine jet, and tip turbine turbomachinery noise) the same as the reference levels, it was necessary to increase the number of tip turbine blades from 264 to 352 by going from three to four blades per carrier. In doing so, the tip turbine turbomachinery noise levels which dominate the floor noise were kept low by forcing the tip turbine pure tone to fall beyond 10,000 Hz where it will not affect the PNdB calculation. With 11 inches of fan exhaust treatment on the four splitters of the scaled fan, 16.3 PNdB suppression was obtained as opposed to 17.8 PNdB suppression on the reference size. The resulting total system noise level with fan inlet noise is 101.0 PNdB versus 99.0 PNdB for the reference configuration.

For the second comparison, the four fan exhaust splitters were increased in treatment length to 12.5 inches to give the same fan exhaust suppression of 17.8 PNdB as the reference size. The resulting total system noise level with fan inlet noise included is 100.4 PNdB.

To reach the total system goal of 99.0 PNdB, the four fan exhaust splitters were increased to a treatment length of 19 inches, which gives 25.3 PNdB of exhaust suppression of 7.5 PNdB more suppression than the reference size. Alternatively, a configuration having five fan exhaust splitters was examined which required 11 inches of treatment length to achieve a total system noise level of 99.2 PNdB. For this design, there was 5.5 PNdB more exhaust suppression than the reference design.

Weight and configuration scaling data for the 1.25 pressure ratio lift unit were extended (over those shown in Reference 1) to include the "2 x lift unit." In Figure 13 is shown the extended weight scale factor versus the lift scale factor. In Table III are shown the configuration scaling dimensions, based on the installation drawing in Figure 14. As noted previously, the factor on lift unit airflow differs slightly from the factor on lift. At a lift scale factor of 2.0, the factor on airflow is 1.984 relative to the reference level. For a 1-fan-on-1-gas-generator system at a lift scale factor of 2.0, the gas generator scale size would be 0.992 relative to the reference size given in Reference 1.

Because the acoustic treatment was modified to provide lift unit noise levels comparable to those of the reference configuration a discontinuity would actually exist in the weight scaling curve between factors 1.5 and 2. However, the specific transition point has not been identified, and could probably be moderately shifted, as required, to allow assumption of smooth scaling trends.

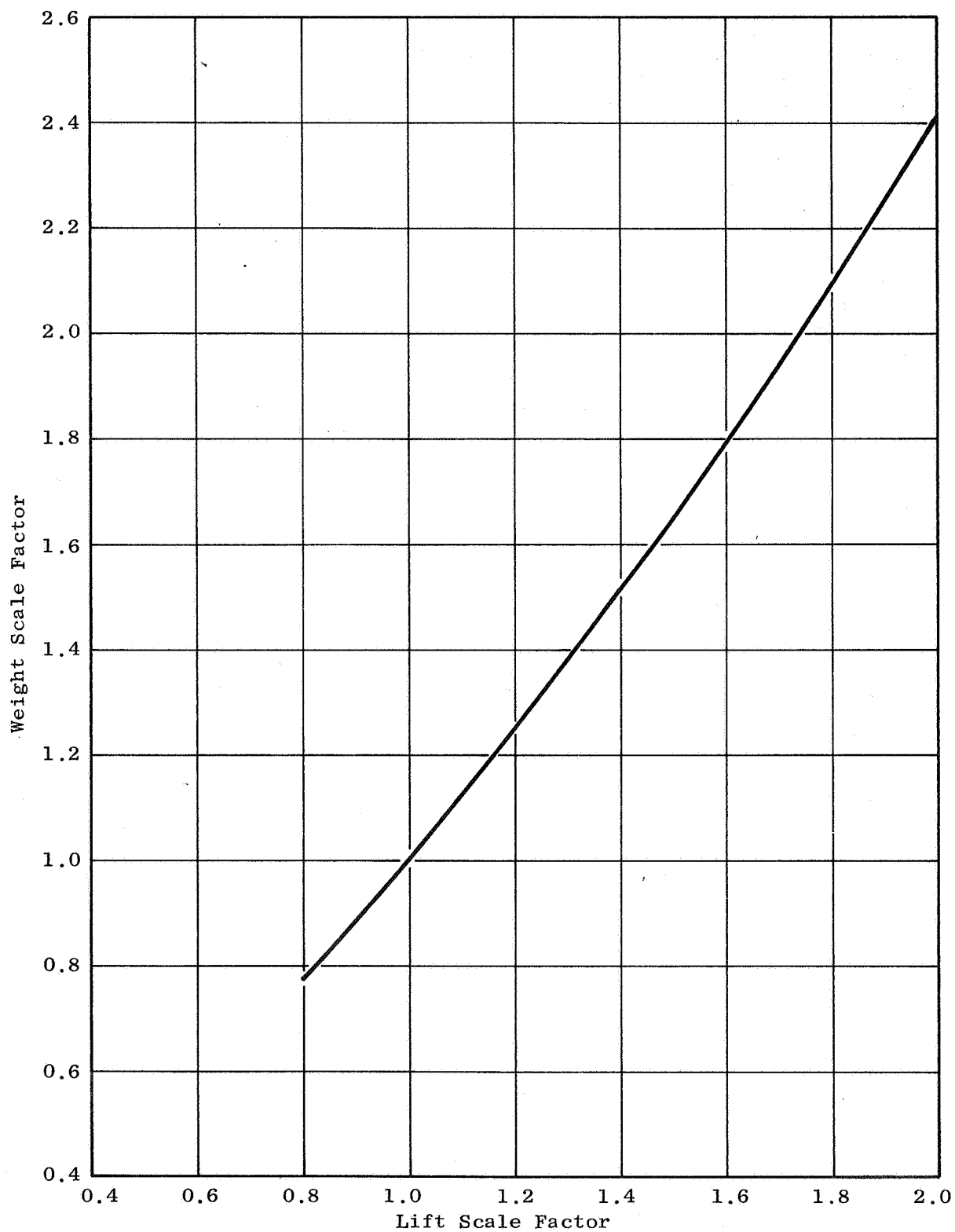


Figure 13. 1.25 Pressure Ratio Lift Unit Weight Scale Factor.

Table III. 1.25 Pressure Ratio Lift Fan Configuration Sealing.

LIFT SCALE FACTOR	SCALED DIMENSIONS, inches								
	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	2.0
E	38.9	41.2	43.4	45.5	47.5	49.5	51.3	53.1	61.0
F	77.8	82.5	86.9	91.1	95.1	98.9	102.6	106.2	122.0
G	32.7	34.7	36.5	38.3	40.0	41.7	43.2	44.8	51.5
H	10.2	10.8	11.4	11.9	12.4	12.9	13.4	13.9	16.1
J	11.3	11.9	12.5	13.1	13.7	14.2	14.8	15.3	17.7
K	41.1	43.6	45.9	48.2	50.3	52.3	54.3	56.2	64.5
L	37.5	39.8	41.9	43.9	45.9	47.7	49.5	51.2	58.8
M	42.0	44.5	46.9	49.2	51.4	53.4	55.4	57.4	66.1
N	66.2	69.7	73.0	76.1	79.1	82.0	84.8	87.5	102.8
P	10.8	11.5	12.1	12.7	13.3	13.8	14.3	14.8	17.1
R	26.7	28.0	29.5	31.0	32.4	33.8	35.1	36.3	41.7
S	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8	1.0
T	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.6
U	6.5	6.9	7.3	7.6	8.0	8.3	8.6	8.9	10.3
V	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.7
W	1.2	1.2	1.3	1.4	1.4	1.5	1.5	1.6	1.6
X	55.8	59.0	62.1	65.1	67.9	70.6	73.1	75.6	87.5

REFERENCE DIMENSIONS -

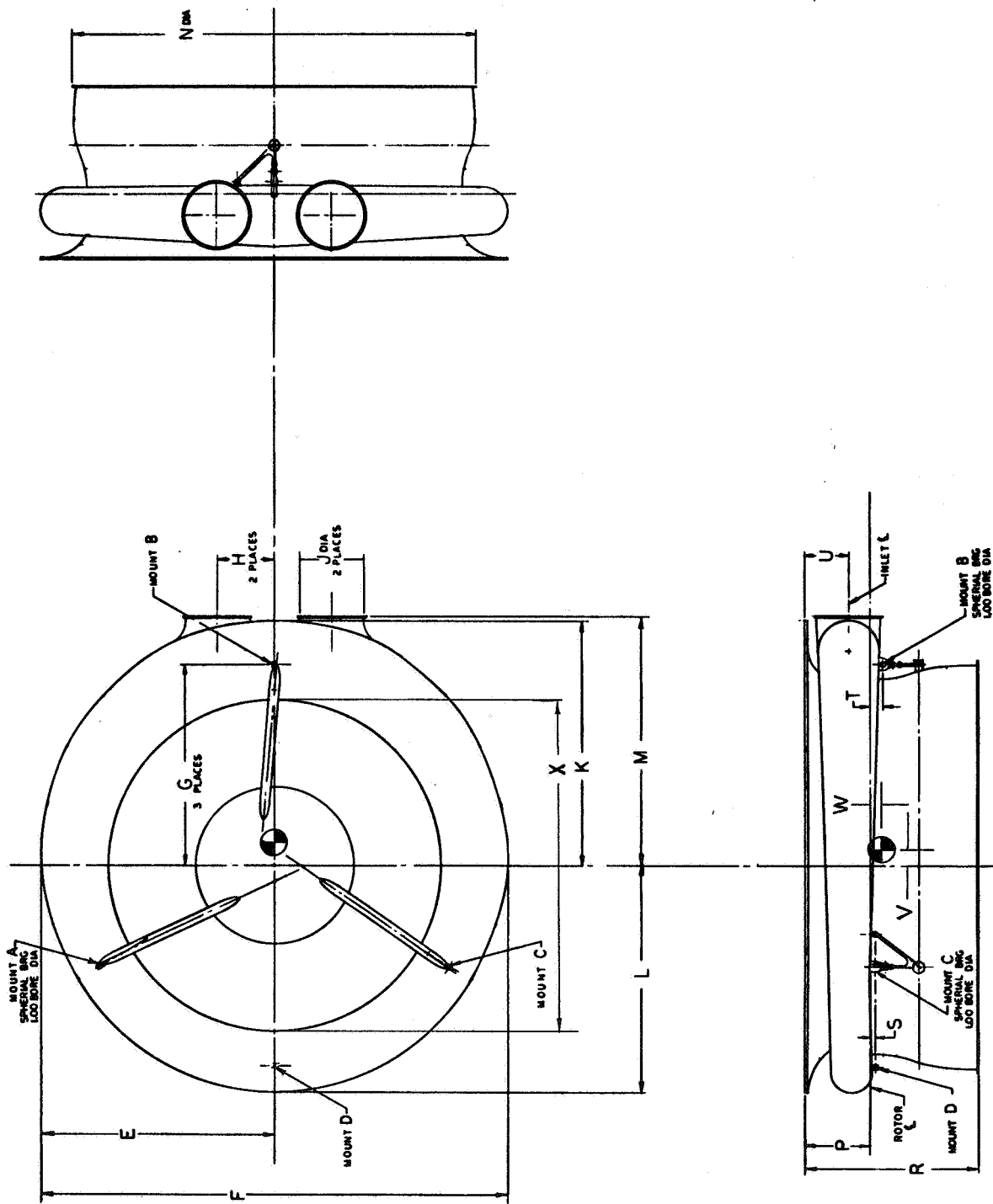


Figure 14. Lift Unit Installation Drawing.

D. RLF INLET ACOUSTIC SUPPRESSION

1. Introduction

An evaluation was made of the effects of inlet noise suppression on the gas generator and fan of a cruise arrangement of Remote Lift Fan System A. This system uses a turbojet gas generator to drive a 1.25 pressure ratio lift fan. The effects of treatment on inlet flow conditions, i.e., pressure losses and fan performance, were determined.

At the outset of the study, the participating aircraft companies were contacted to establish a representative engine and fan size based on their system studies. As a result, a scale factor of 1.75 was selected as representative of the requirement for an eight-engine, eight-fan, advanced V/STOL transport. The nominal lift of this size fan is thrust 17,500 lbs on a 90° F day. The fan tip diameter is 82.19 inches, and the design corrected airflow is 1171.6 pounds per second.

The gas generator in the Remote Lift Fan Study was sized to drive two lift fans. In this study, however, a single fan will be considered to be driven by a single gas generator so that the scale factor on the gas generator is 0.875 on airflow. The turbojet compressor design corrected airflow is 116.4 lbs/sec, and the compressor tip diameter is 35.73 inches.

At the time this study was performed, the scale factors generated in the Remote Lift Fan Study did not extend to a value of 1.75, so that extrapolations were required to obtain estimated critical dimensions. The maximum diameter across the fan scroll was estimated to be 114.3 inches. Allowing two inches in radius for nacelle structure, the maximum cruise nacelle diameter is 118.3 inches.

2. Performance Effects

Because of the sensitivity of a low pressure fan to inlet recovery, much attention must be given to the cruise nacelle lip bluntness and to the inlet throat size. A source of inlet loss at static operation is separation inside the inlet lip, and the magnitude of this loss is dependent on the sharpness of the lip and the Mach number at the lip. Cruise considerations limit bluntness because of drag, however, so that both take-off and cruise flight conditions are important. In this case, however, the static performance takes on added significance in comparison with CTOL applications because the propulsion system is sized by the performance at static conditions.

The rotor of the lift fan is designed to accept a velocity profile corresponding to a shallow bellmouth-type wing inlet. When installing the lift fan as a cruise fan, it has been determined from axisymmetric flow field studies that the minimum flowpath diameter just preceding the fan should not be less than two percent larger than the fan tip diameter. A flowpath

diameter of 84 inches was thus selected just ahead of the lift fan. If this diameter is used as the cruise inlet internal diameter, then the inlet throat Mach number at maximum lift is 0.39 at static conditions. It is not desirable to size the inlet throat smaller to increase this Mach number since the take-off total-pressure recovery would be decreased and the cowl external frontal area would be increased.

In determining the lip bluntness, a contraction ratio of 1.20 was selected as sufficient for total-pressure recovery considerations. This contraction ratio results in an inlet highlight diameter of 92 inches. The ratio of highlight diameter to maximum nacelle diameter is 0.78. An inlet length of 50 inches was selected based on this diameter ratio for good cruise drag characteristics. A sketch of the resulting cruise fan inlet is shown in Figure 15. An elliptical bulletnose replaces the flat wingfan center-body for the cruise fan installation.

A typical turbojet subsonic inlet was also designed for the gas generator but with somewhat lower-than-conventional throat Mach numbers because of the importance of the take-off condition. A sketch of this inlet is shown in Figure 16.

Acoustic analyses established the overall eight-fan (six lift + two cruise), eight-engine transport aircraft noise level at 107 dB at nominal lift rating on a 90° F day without fan or gas generator inlet treatment. Configurations of inlet treatment were identified for two levels of suppression for the cruise fan and two levels of suppression for the gas generators driving the cruise fans. For the fan, suppression levels of 4 dB and 8 dB were considered. For the gas generator, suppression levels of 5 dB and 10 dB were considered. The treatment configurations consist of acoustic splitters varying in number and length located ahead of the fan or compressor. Acoustic treatment is also applied to the duct wall in the region where the splitters are located. All splitters are one inch thick regardless of length. To reduce pressure losses, six inches of nontreated length were added to each splitter to account for aerodynamic leading and trailing edges.

Flow area distribution was calculated for each splitter configuration and an average Mach number determined for both nominal and maximum power settings. Average compressible skin friction was determined for the Reynolds numbers resulting from the local average Mach numbers. From past experience, the average skin friction was increased by 37 percent to account for perforated skin. A profile drag coefficient of 0.04 based on projected area was applied for each splitter. It was also assumed that the splitter rings were supported by four, 12-percent-thick struts from the outer wall. Corner interference drag was included for the intersections of the splitter rings and the support struts.

REMOTE LIFT FAN SYSTEM A

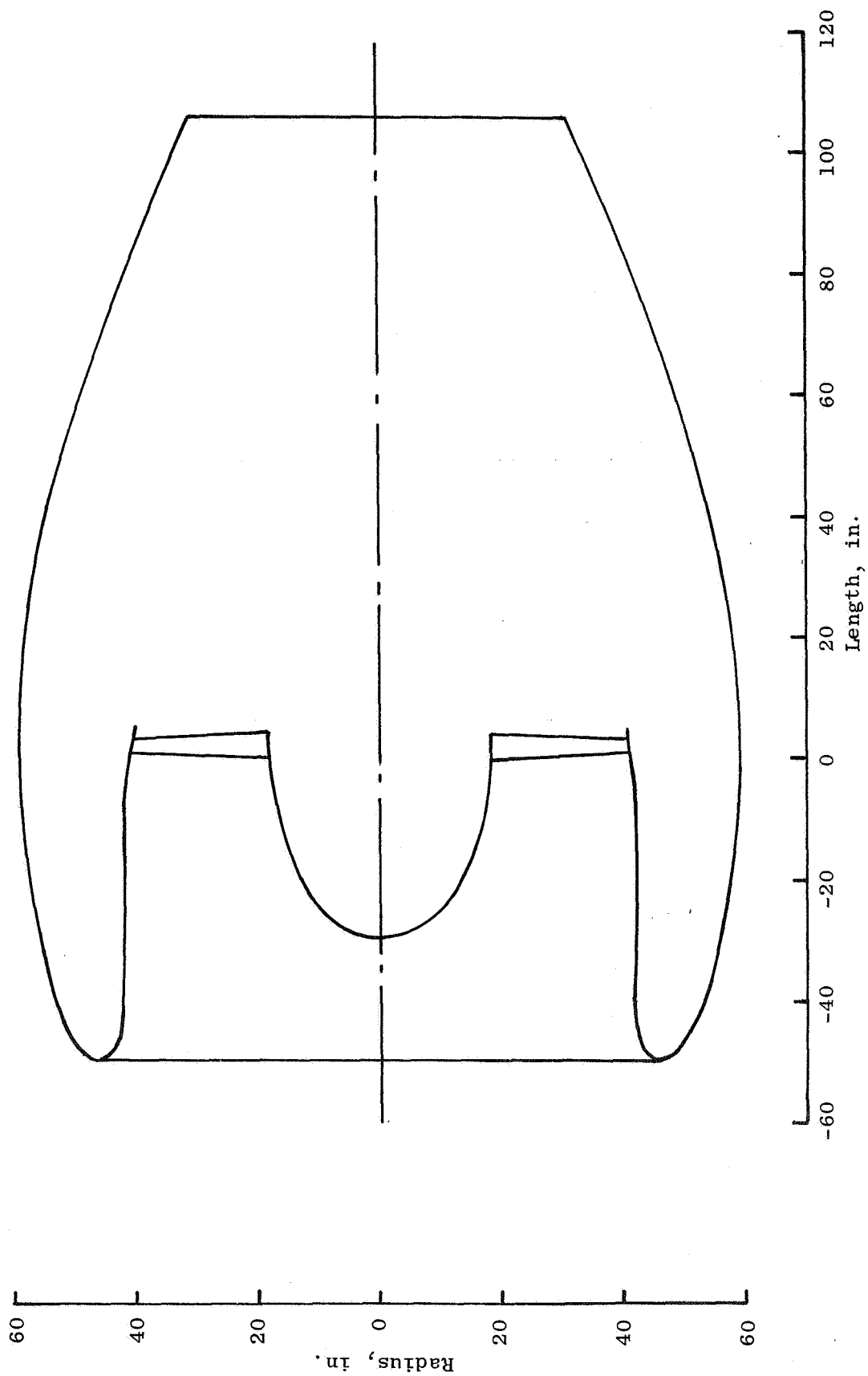


Figure 15. Cruise Fan Inlet, Insuppressed.

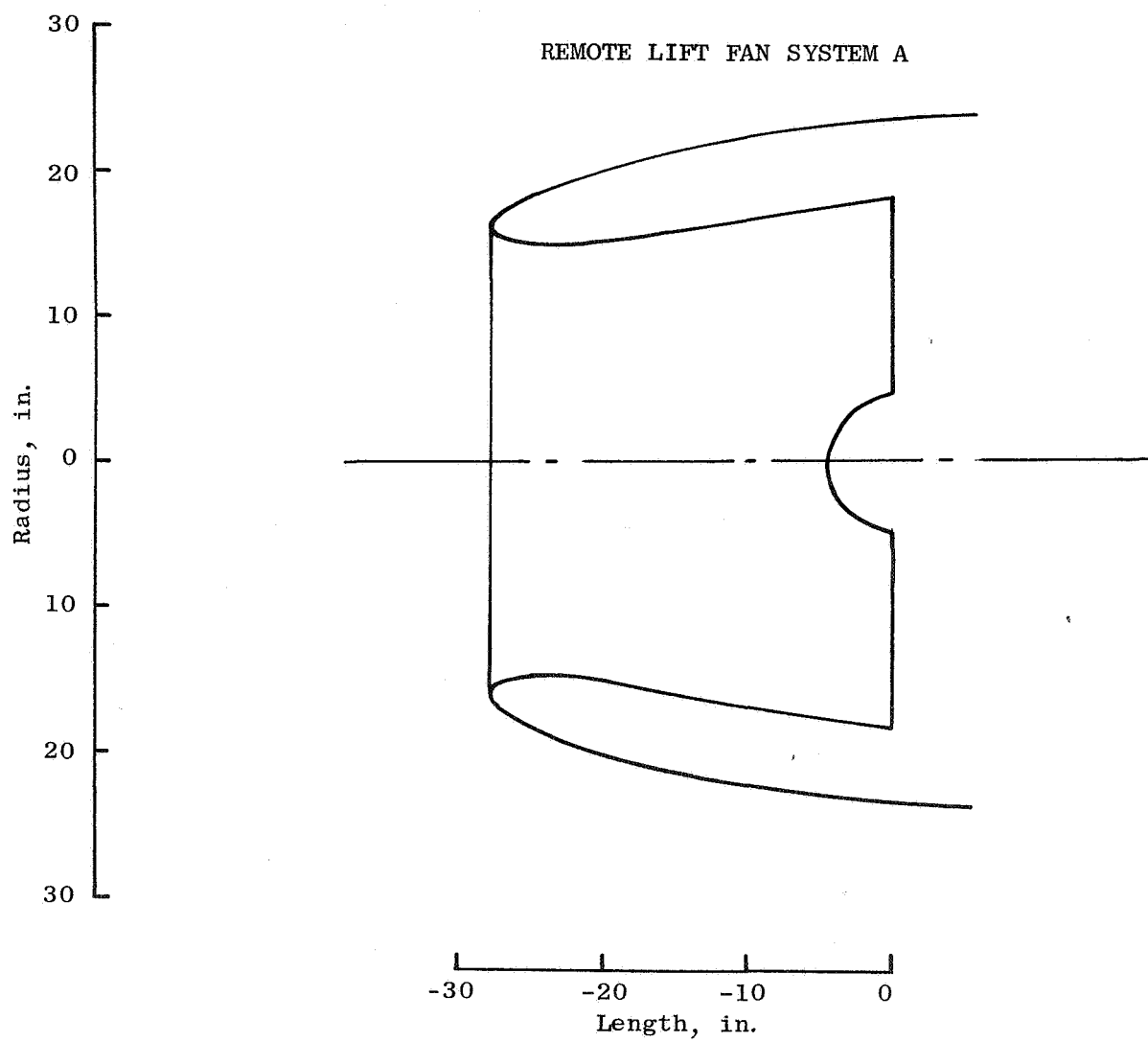


Figure 16. Gas Generator Inlet, Unsuppressed.

The skin friction drag, profile drag, and interference were combined and converted to an equivalent pressure loss using the continuity, energy, and momentum equations. Resulting effects on fan performance were determined utilizing the off-design computer performance decks.

Shown in Figure 17 are the cruise fan inlet suppression configurations for 4 dB suppression. The upper half of the flowpath shows the two-splitter configuration with a treatment length of 15 inches. In the lower half of the flowpath is shown an alternative three-splitter configuration with a treatment length of seven inches. Figure 18 shows the flow area distributions for the two 4 dB suppression configurations along with the clean area distribution.

Shown in Figure 19 are the three- and four-splitter arrangements for the 8 dB cruise fan suppression level. The treatment lengths are 11.5 inches for the three-splitter configuration and 7.5 inches for the four-splitter configuration. Shown in Figure 20 are the flow area distributions for the 8 dB suppression configurations.

For the gas generator, suppression levels of 5 dB and 10 dB were considered. Shown in Figure 21 is the treatment configuration for 5 dB suppression level. A single splitter with a treatment length of 7.5 inches is required. In Figure 22 are shown two treatment configurations for the 10 dB suppression level. In the top of the figure is shown a single-splitter configuration with a treatment length of 14 inches, while in the lower half of the flowpath is shown a two-splitter configuration with a treatment length of 5 inches. Figure 23 shows the flow area distribution in the gas generator inlet both clean and with the various suppression configurations.

System total-pressure recovery performance derivatives were calculated for a cruise configuration of Remote Lift Fan System A for a 90° F day and for a number of power settings. The suppression drag losses converted into pressure recovery could then be evaluated in terms of system performance. Shown in Figure 24 is the sensitivity of system performance to fan inlet recovery for a gas generator recovery of unity for several power settings. The nominal lift power setting is 1.97 for 100 percent ram recovery for both the fan and the gas generator total-pressure recovery. The derivatives of percent loss in lift for each percent can be calculated from Figures 24 and 25. The resulting derivatives are shown in Figure 26 as a function of power setting. At maximum thrust (power setting 1) the loss in thrust for each percent loss in recovery is 1.23 for the gas generator and 2.6 for the fan. At the nominal rating power setting of 1.97, the loss in thrust for each percent loss in recovery is 1.48 for the gas generator and 3.55 for the fan.

The final results of the study are shown in Table IV. Gas generator inlet noise suppression is less costly in terms of system performance than cruise fan inlet noise suppression. Performance losses at the nominal power setting can, of course, be made up with throttle push; however, a decrease in lift at the maximum power setting is unavoidable. The result is loss in control margin as the nominal power setting is shifted toward the maximum setting which also has been reduced. Alternatively, the aircraft gross weight could be reduced to maintain control margin.

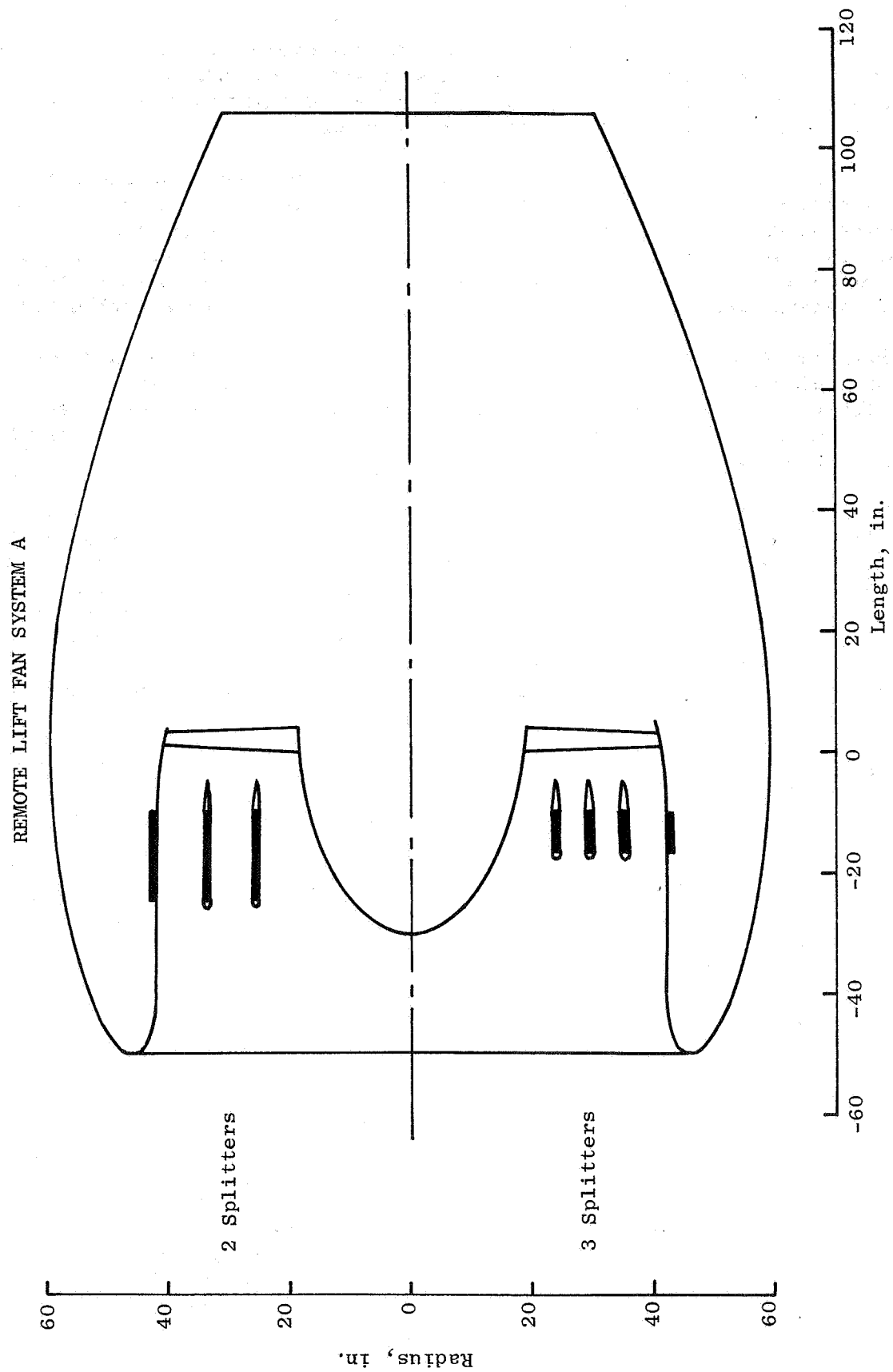


Figure 17. Cruise Fan Inlet, 4 PNdB Suppression.

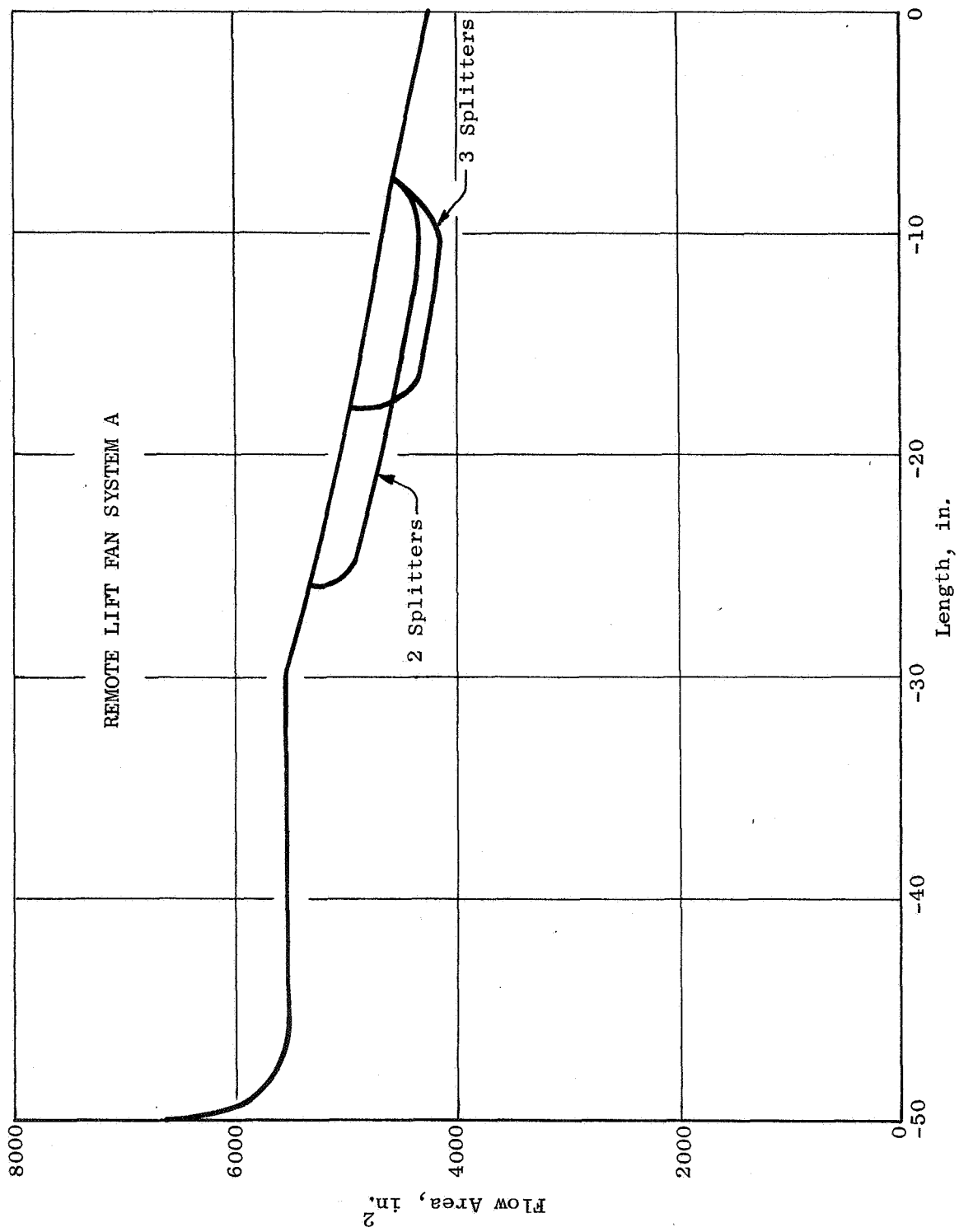


Figure 18. Inlet Flow Area Distribution, 4 PNdB Suppression.

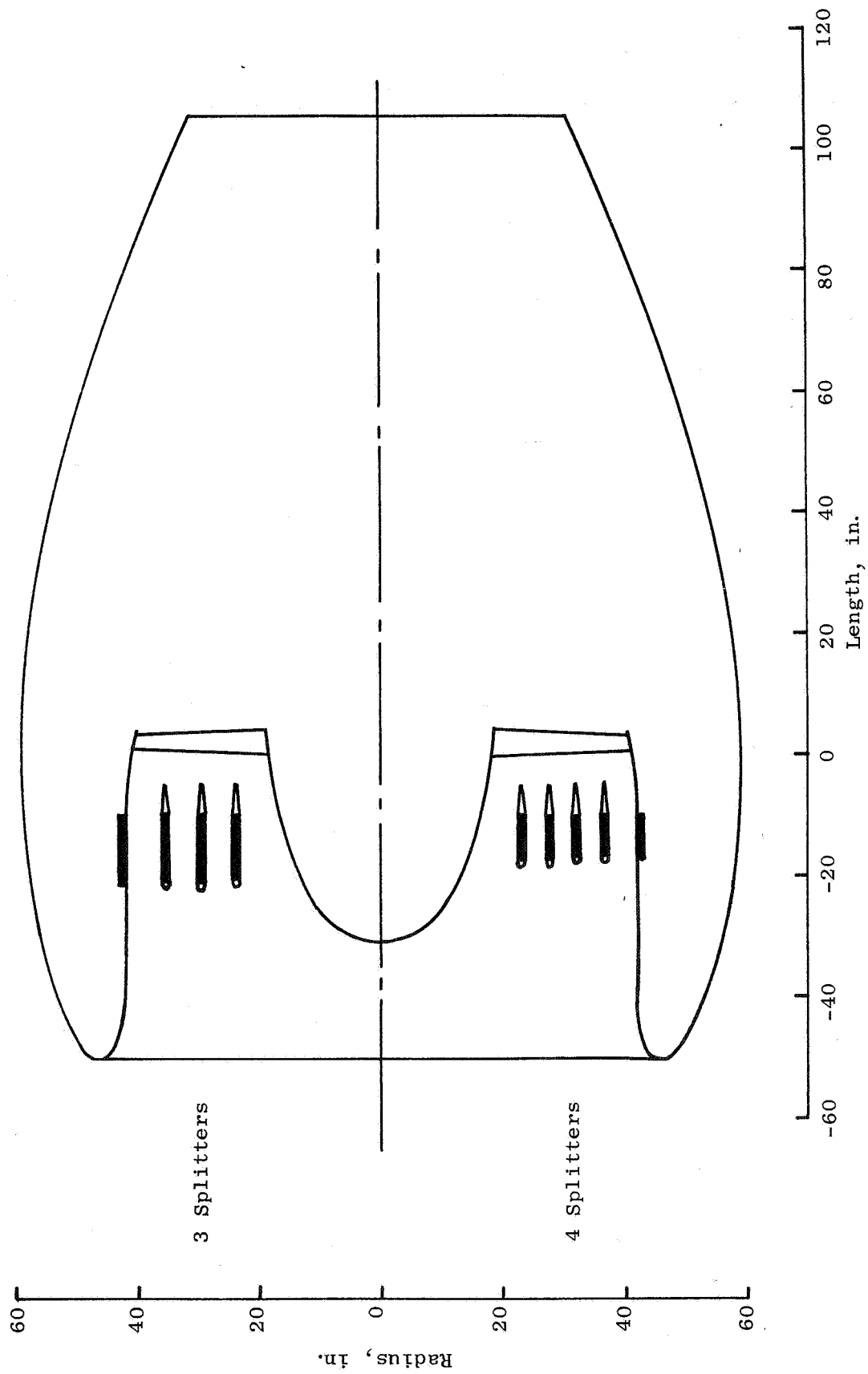


Figure 19. Cruise Fan Inlet, 8 PNdB Suppression.

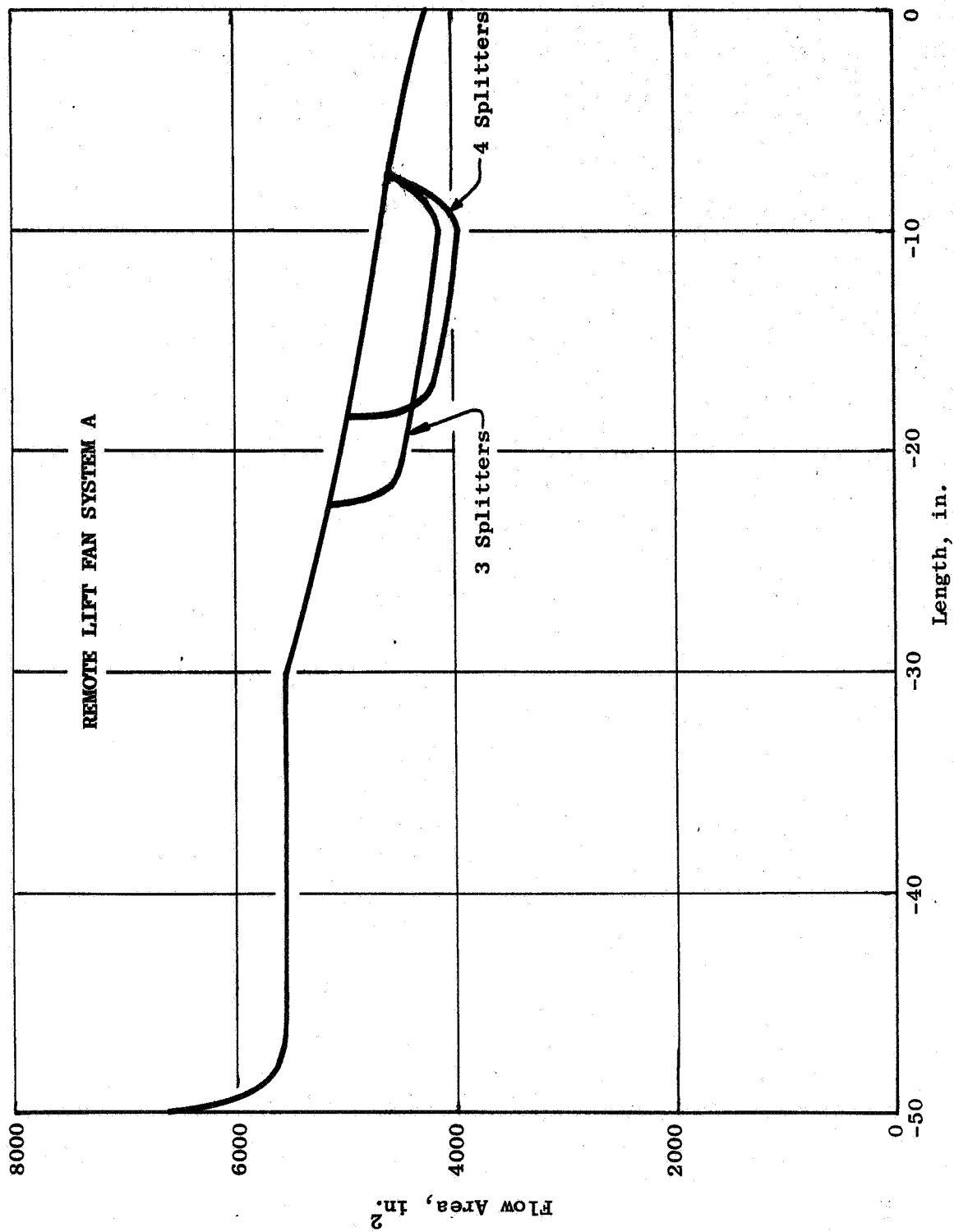


Figure 20. Inlet Flow Area Distribution, 8 PNdB Suppression.

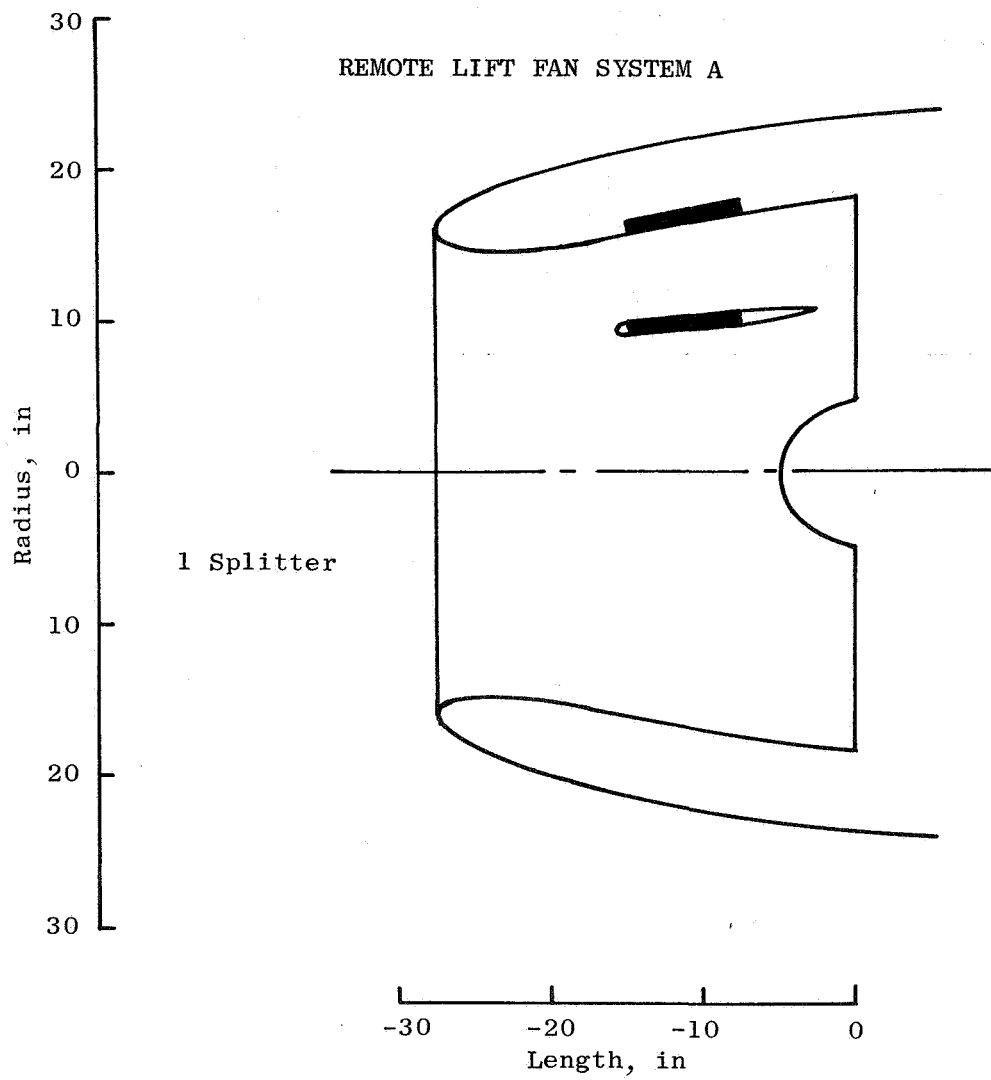


Figure 21. Gas Generator Inlet, 5 PNdB Suppression.

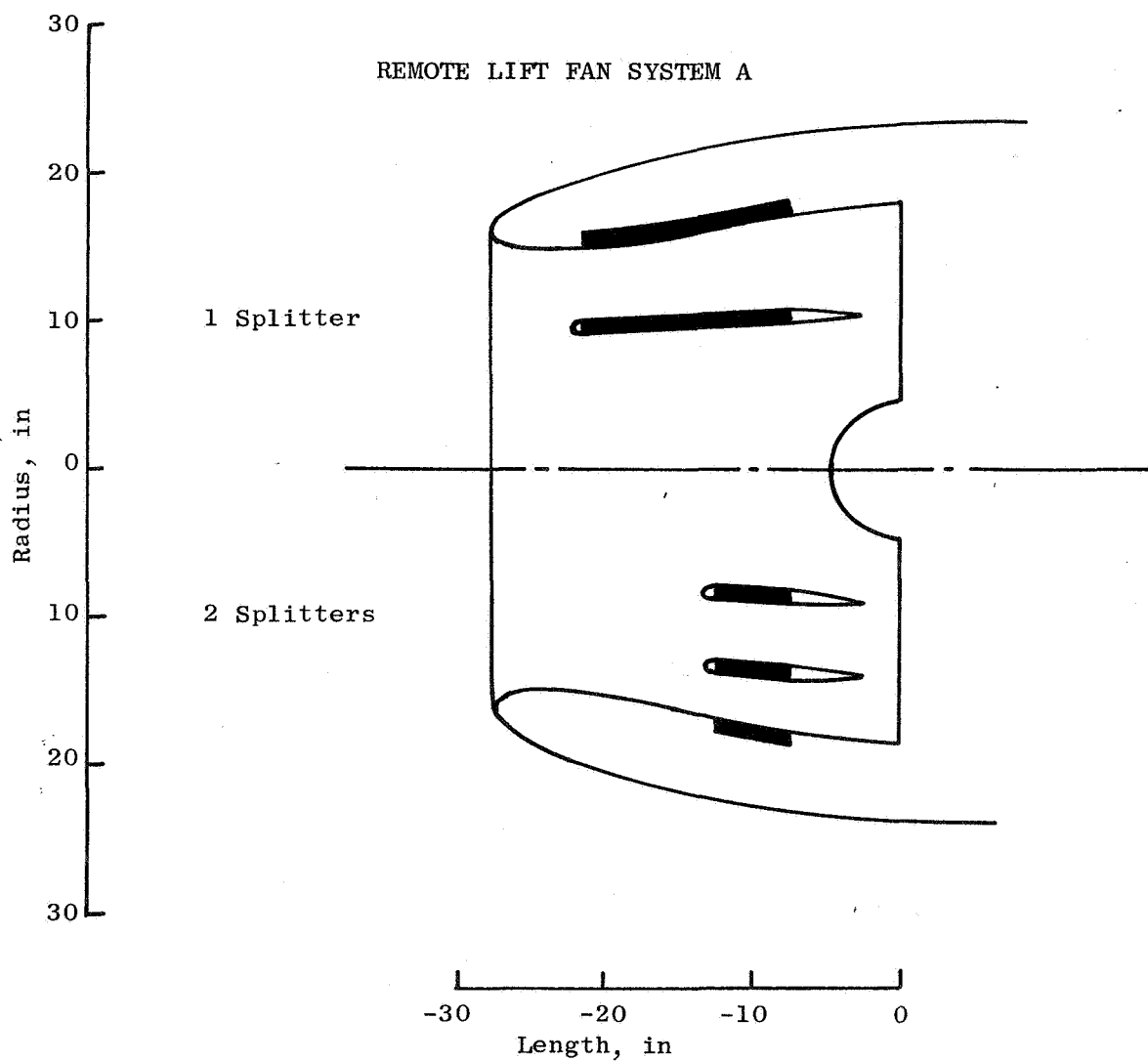


Figure 22. Gas Generator Inlet, 10 PNdB Suppression.

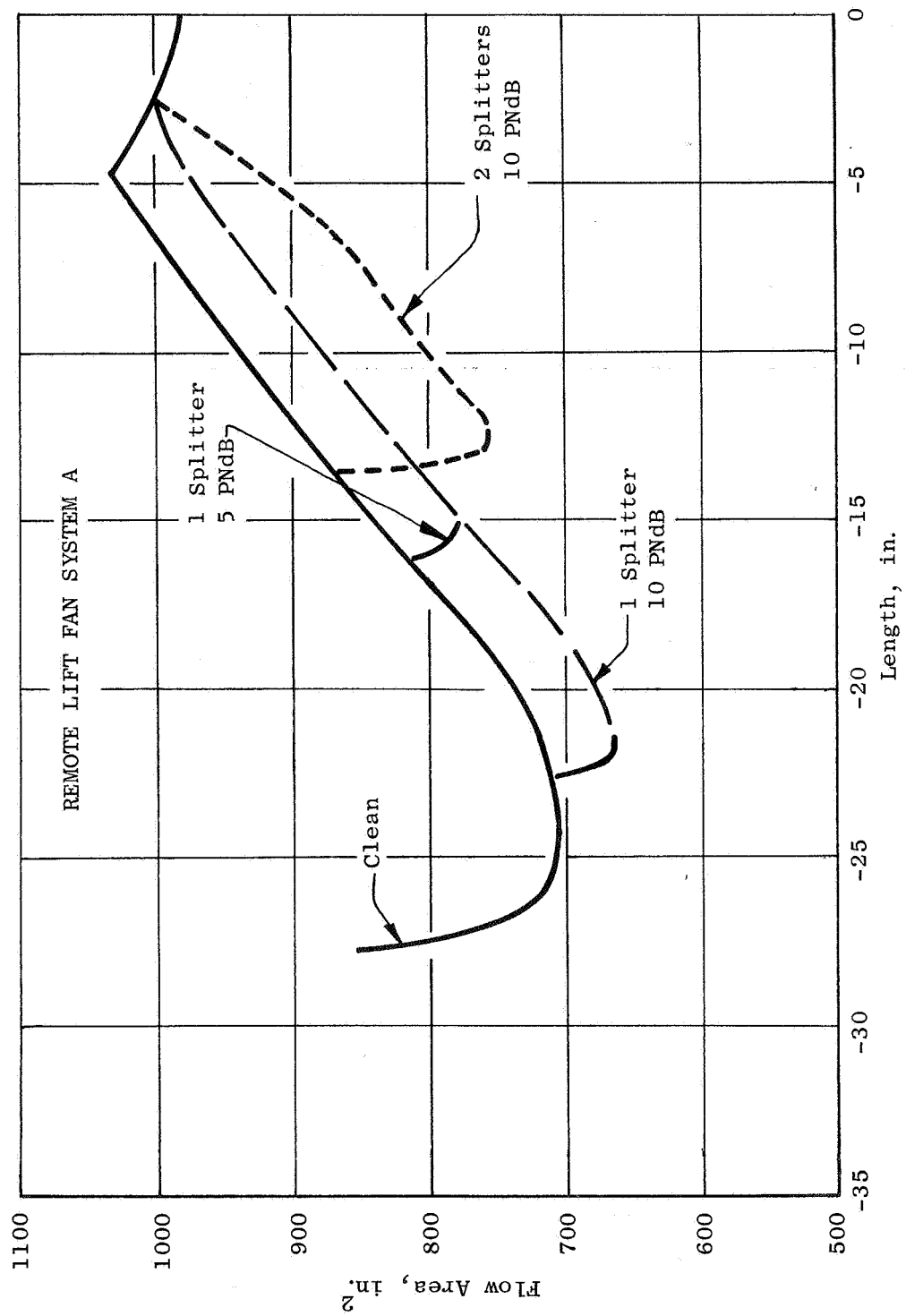


Figure 23. Gas Generator Inlet Flow Area Distribution.

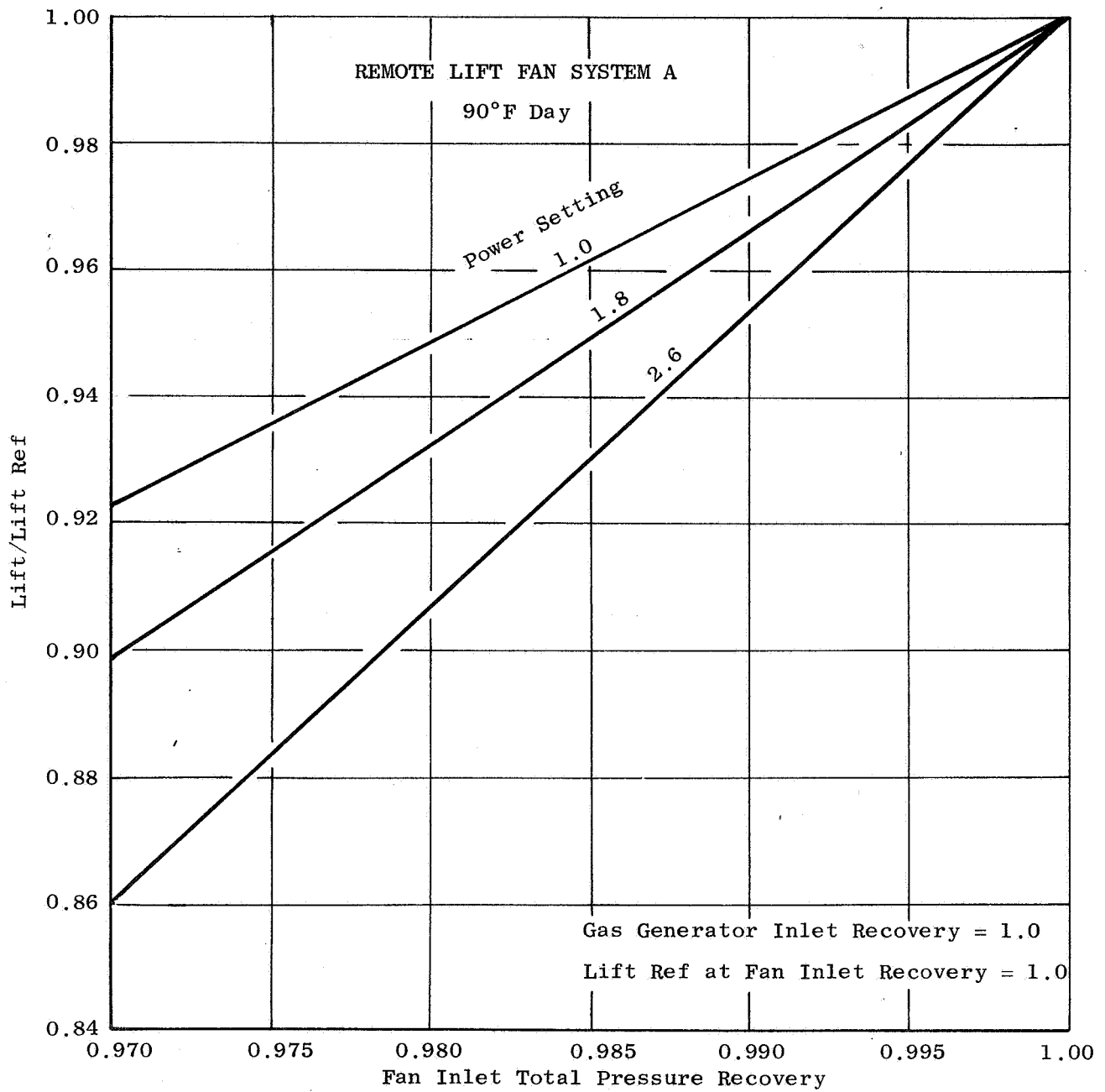


Figure 24. Fan Inlet Recovery Sensitivity.

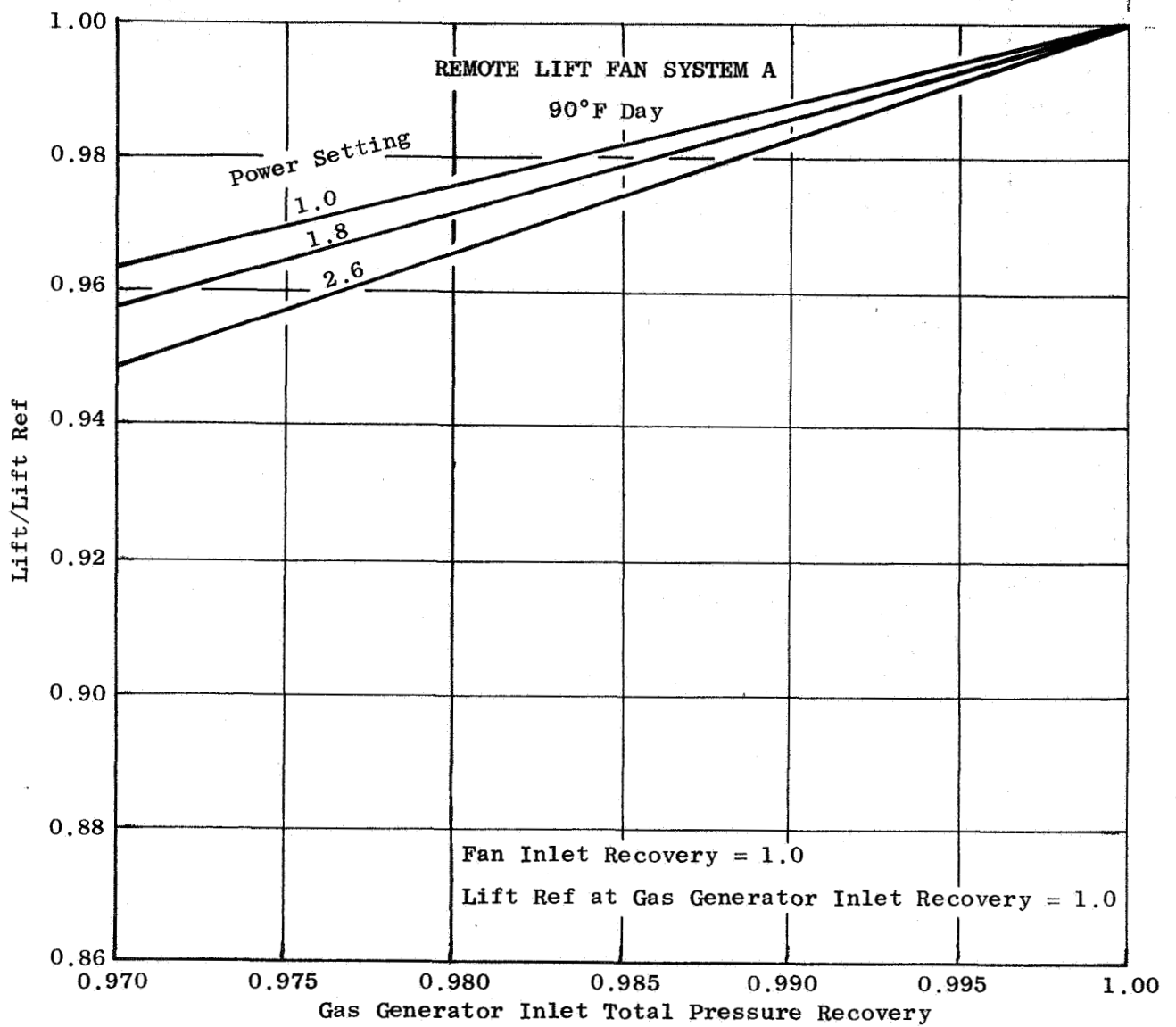


Figure 25. Gas Generator Inlet Recovery Sensitivity.

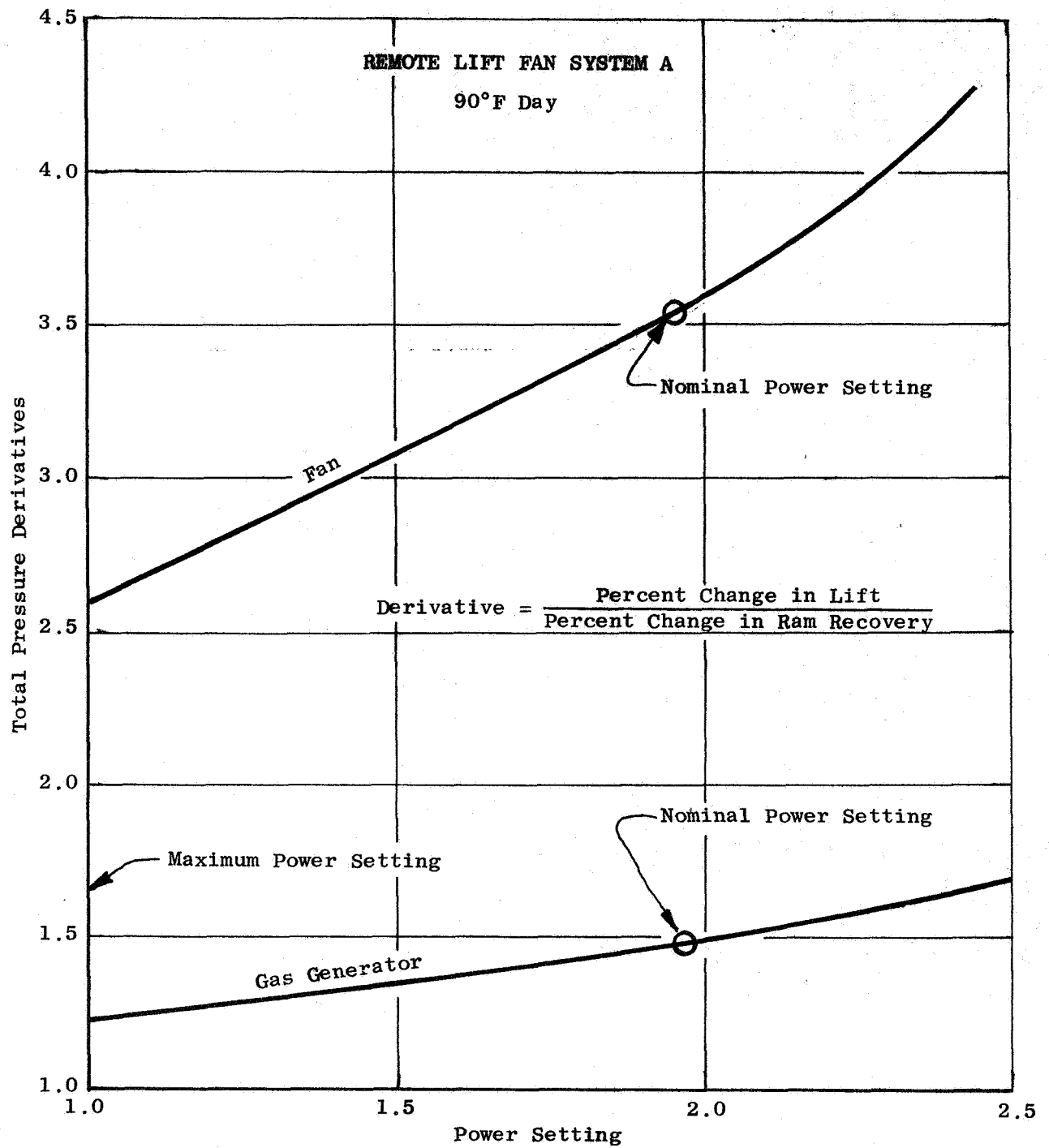


Figure 26. System Pressure Recovery Derivatives.

Table IV. Effects of Inlet Acoustic Treatment on Cruise System Performance.

GAS GENERATOR

Level of Suppression	5 db	10 db	10 db
Number of Splitters	1	1	2
Treatment Length, in	7.5	14.0	5.0
Power Setting	1	1.97	1
Pressure Loss, percent	0.08	0.07	0.17
Derivative	1.23	1.48	1.48
Loss in Lift, percent	0.098	0.104	0.209

CRUISE FAN

Level of Suppression	4 db	4 db	8 db	8 db
Number of Splitters	2	3	3	4
Treatment Length, in	15	7	11.5	7.5
Power Setting	1	1.97	1	1.97
Pressure Loss, percent	0.40	0.29	0.43	0.68
Derivative	2.6	3.55	2.6	3.55
Loss in Lift, percent	1.04	1.03	1.61	1.77

3. Acoustic Suppression

As the level of exhaust suppression increases, the other system noise sources become significant. A major contributor to the system noise floor is the gas generator inlet-radiated noise. This noise source has a high potential for suppression, since the axial inlets are relatively long; and, in the case of some installations, the inlets are in the fuselage of the aircraft where bends and inlet doors may be used as suppression surfaces.

Although suppression design would be aircraft and installation dependent, it was possible to evaluate the effect of various levels of suppression and to relate these levels to approximate lengths and acoustic splitter numbers which could be applied to a representative inlet.

For the RLF acoustic analysis, it was assumed that the lift fans would be sized to provide 17,500 lbs of lift. It was assumed that one gas generator per fan (eight total) would be required. A combination of lift/cruise and gas generator inlet suppression was required. This is shown in Figure 27 which gives the suppression combinations which will result in 100 PNdB or less for the system. As an example of the type of suppression treatment required to obtain the levels indicated on Figure 27, the cruise fan inlets and gas generator inlets were assumed to have acoustically treated inlet splitters. The required splitter lengths are included in Table IV for two levels of suppression on each inlet.

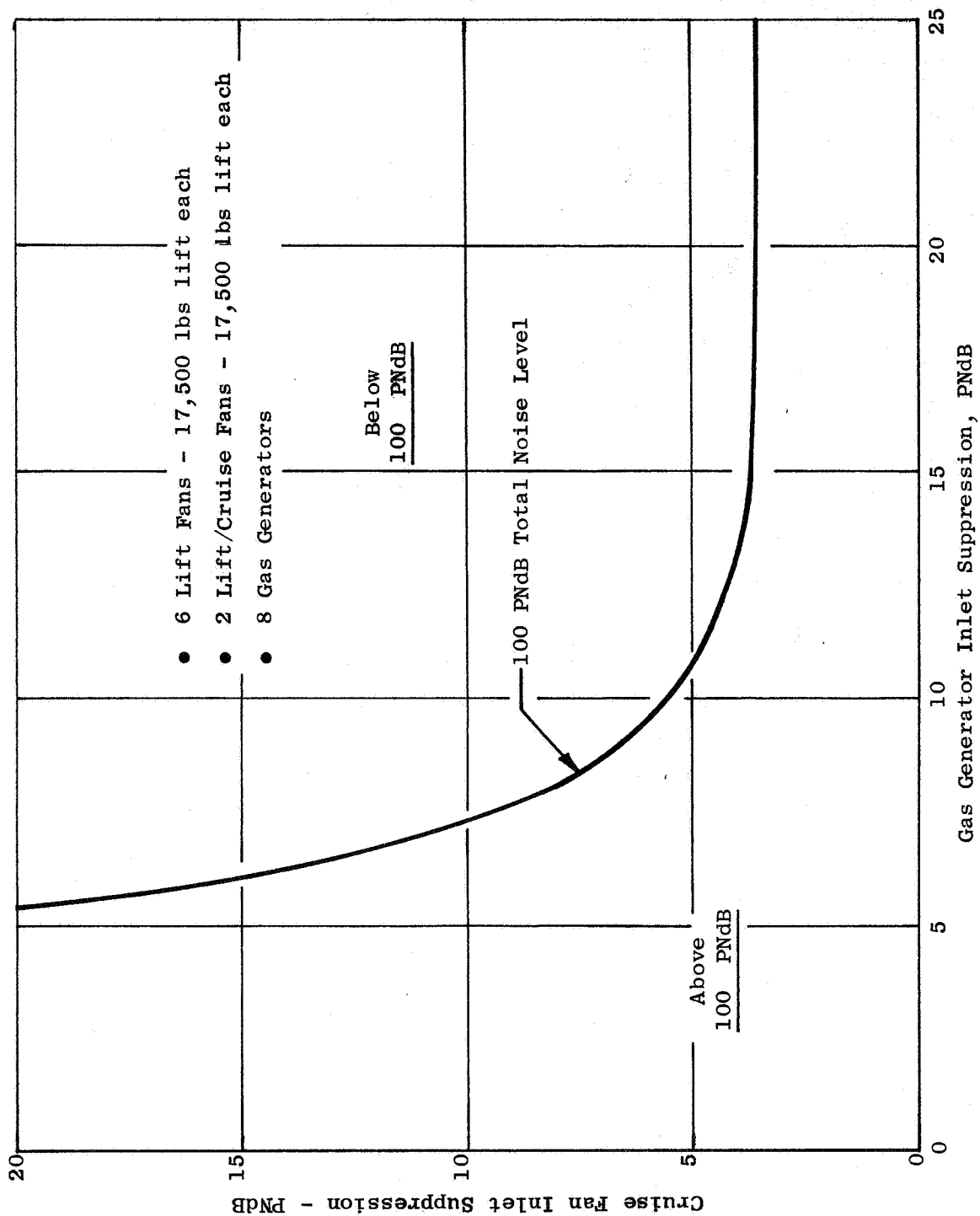


Figure 27. RLF System A Inlet Suppression Requirements.

Section III E., "Commerical Aircraft Noise Contours", pages 45 through 69 is contained in Volume V, NASA number CR 121278.

F. CONTROL PERFORMANCE AND TRANSIENT RESPONSE STUDIES

1. Design Criteria

Design studies and analysis of advanced V/STOL aircraft have shown that it is desirable to combine the aircraft attitude control system with the main thrust-producing propulsion components. The combination of these two functions, thrust modulation for control and thrust for VTOL lift, necessitates the definition of a set of applicable design requirements for the V/STOL propulsion components. These requirements establish the following general types of criteria for design of the propulsion components:

- The range of transient thrust modulation must meet the aircraft altitude control requirements in pitch, roll, yaw, and vertical acceleration.
- The time required for the propulsion system to respond to a commanded thrust change is established by the aircraft maneuver requirements.
- The magnitude, duration, and cyclic variation of the control inputs or propulsion system thrust changes are established by the aircraft control utilization requirements.

Definition of the specific design requirements, as they are reflected in the propulsion system, can only be obtained through detailed integrated aircraft/propulsion system studies and tests. The required level of analysis for accurate definition of the requirements cannot be warranted during preliminary design studies. Therefore, during these V/STOL propulsion studies, approximate design criteria were established as follows. The primary source of these criteria is a publication of V/STOL handling requirements (Reference 2).

2. Lift Ratings

The requirements for control and maneuver during both normal and critical component failure modes of operation establish four levels of propulsion system thrust or lift ratings:

- LNR (Nominal Rated Lift): The time-averaged lift for nominal operation during the V/STOL mission.
- LNM (Nominal Maximum Control Lift): The maximum lift during normal operation as established by aircraft attitude control and maneuver requirements.
- LER (Emergency Rated Lift): The time-averaged lift for the propulsion unit when the critical propulsion unit is shut down.
- LEM (Emergency Maximum Lift): The time lift required for attitude control with the loss of thrust from one propulsion unit.

Typical values of these lift ratings were established for the preliminary design of V/STOL propulsions and are given in Table XII for the reference size engine system.

Table XII. Lift Ratings for 10 000-Pound Design Lift Propulsion System.

Lift ratings for 10,000 pound design lift propulsion system

	<u>Pounds</u>
Nominal Rated Lift (LNR)	10,000
Nominal Maximum Control Lift (LNM)	12,500
Emergency Rated Lift (LER)	11,600
Emergency Maximum Control Lift (LEM)	13,000

3. Duration and Magnitude of Control Excursions

This design requirement is concerned with the magnitude of a given control input and the time or duration the control is applied. This criteria is statistical in nature and is established by the characteristics given in Figures 43 and 44. Figure 43 shows the probability characteristics defining the levels of control, while Figure 44 defines the estimated maximum time a particular level of control will be applied.

4. Transient Response

Time response of the propulsion systems is directly related to the ability of the aircraft to perform the required maneuvers. Tentative requirements are presented in the following excerpts from Reference 2:

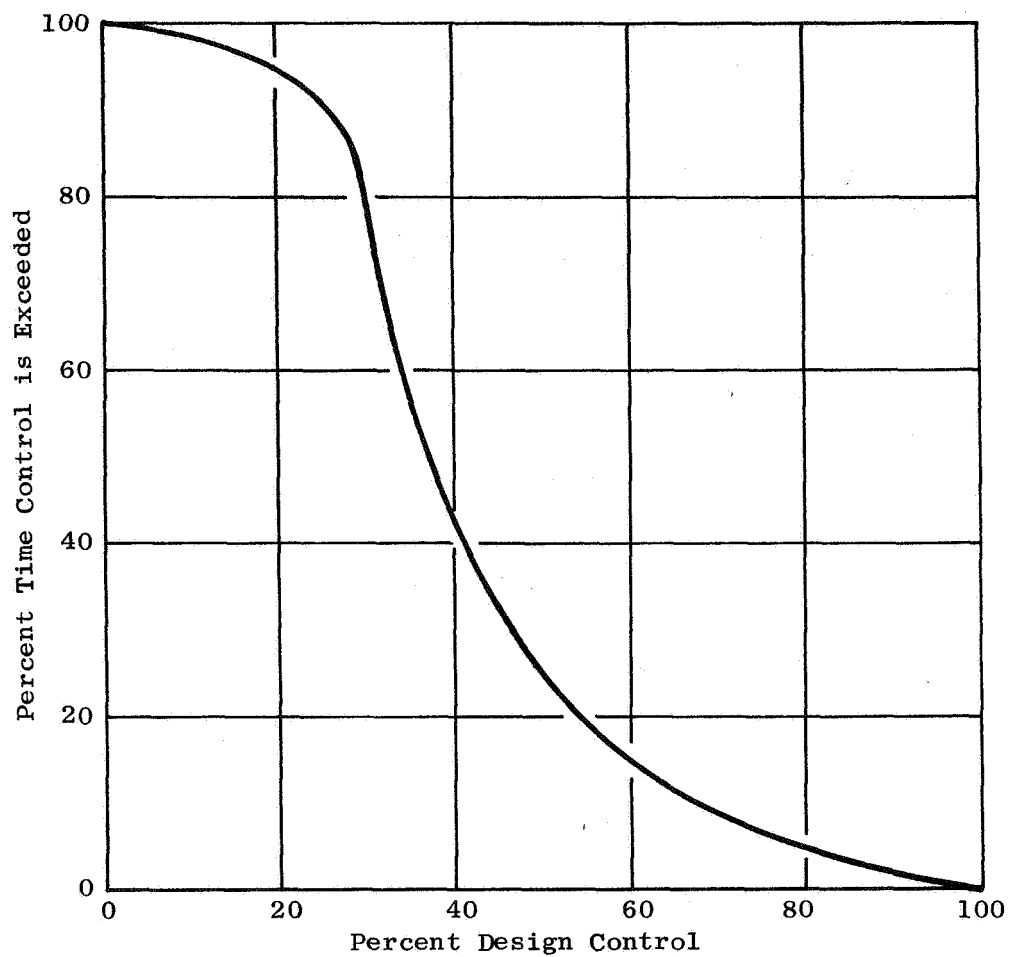


Figure 43. Control Duty Cycle.

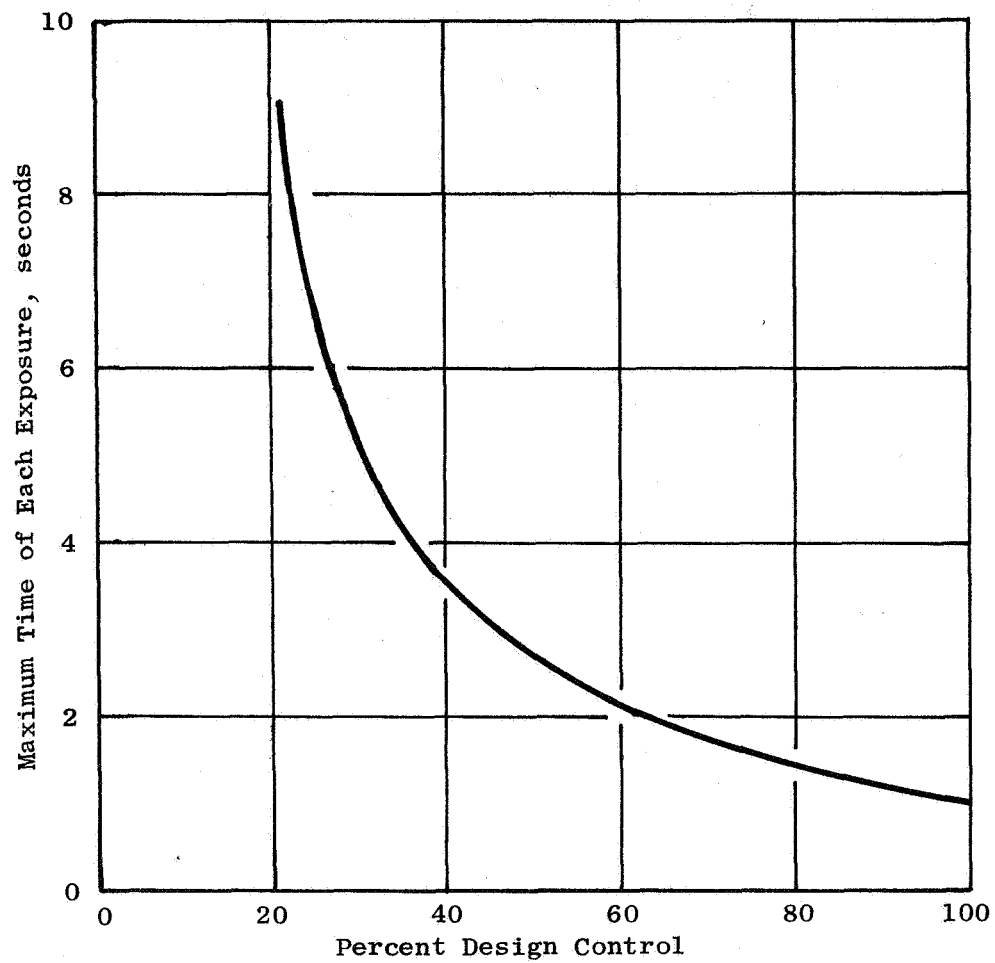


Figure 44. Exposure Times for Control Inputs.

- Following an abrupt step displacement of control, an angular acceleration response should be in the command direction within 0.1 second.
- Time to reach 63 percent of peak angular acceleration shall be less than 0.2 second.
- With attitude stabilization time to reach 90 percent of attitude, change should be greater than 1 and less than 2 seconds.

During hovering and low speed operation of the aircraft, the primary source of control is the modulation of propulsion system thrust. In addition, it is reasonable to assume that the aircraft-related control system components will have response times fast enough so that their influence on the total response time will be negligible. For this condition, the required minimum time response of the propulsion system may be defined by the limits shown in Figure 45. The critical design point established by these limits is an effective time constant of less than 0.2 second. The effective time constant is defined as the time required to achieve 63 percent of the command input.

G. REMOTE LIFT FAN TRANSIENT ENGINE RESPONSE

During low speed transition and hover flight, control of V/STOL aircraft is obtained by thrust modulation. The thrust for control may be obtained from an additional control device such as control fans or tip-jet nozzles. Other methods of control include thrust modulation of the main V/STOL propulsion systems. In all types of control systems employed for V/STOL aircraft, response time or control system lag is of critical importance in order to provide an acceptable highly maneuverable aircraft. A determination of engine response is therefore a significant requirement in the evaluation of typical V/STOL propulsion systems.

As part of this study, a preliminary evaluation of the engine response characteristics of the two propulsion systems was performed. The analysis was directed toward an assessment of the system's capability of achieving a 10 percent thrust change in less than 0.3 second. Dynamic representations of the propulsion system components were used in the analysis. Because of the limited scope of the study, no effort was made to design or determine an optimum propulsion or control system relative to the response criteria. Therefore, the results represent an initial evaluation of system response. It appears quite feasible that optimization of the system could yield significant response improvements over those discussed and presented here.

1. Turbojet System

Of the two systems studied in this analysis, the turbojet system is the simplest to represent in the dynamic model. The analysis was performed using

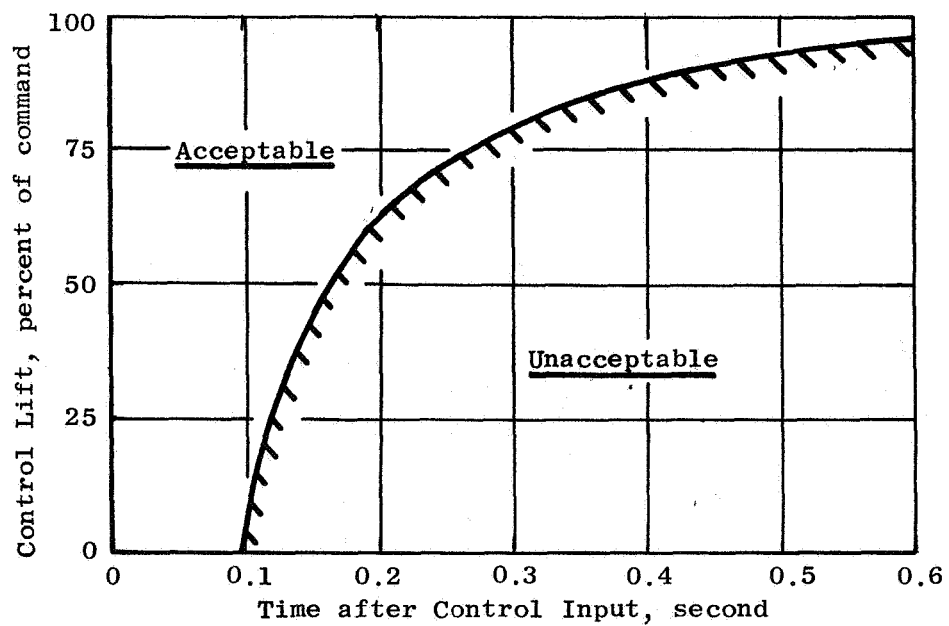


Figure 45. Response Criteria for V/STOL Propulsion Systems.

digital computer simulation based on a nonlinear representation of the various system components. A functional block diagram of the simulated system is presented in Figure 46. The simulation consisted of a mathematical representation of the major system components; compressor, combustor, high pressure turbine, fan turbine, and lift unit fan. In addition, a simulation of the ducting system volume dynamics was included along with corrections for pressure losses and cooling and parasitic airflows. The representative ducting volume was equivalent to two ducts, 20 ft (6.1 m) long and 18 in. (0.46 m) in diameter. The main engine fuel control was represented to reflect conventional turbojet hydromechanical components with the appropriate engine sensors. A delay of 0.030 second is assumed to exist between the metering of the fuel in the control and its consumption in the combustor, representing a transport delay and combustion dynamics.

In the dynamic model, the gas flow of a single gas generator supplies two equal size lift units. In the representation, only a single lift unit was modeled, the gas flow for the other system was extracted from the ducting through a simulated nozzle. The path shown as dashed lines in Figure 46 represents a method of providing an anticipation signal in the form of a speed bias. For this study, a gain value of 0.02 was used.

Transient runs were performed using the main engine throttles as the control input. This method of lift control was not intended to represent an actual aircraft system type of control, but was used to determine the capability of the lift systems to achieve the objective of a 10 percent thrust change in 0.3 second.

Several cases of response were investigated using throttles with over-demand. For this case, the throttle is pushed well beyond the setting for a 10 percent thrust increase. Overdemand cases were run for initial fan speeds of 60, 70, 80, and 90 percent, and the times required for the 10 percent thrust change are listed in Table XIII. Two cases were run to determine response for a more representative condition of a step throttle input from a 10 percent thrust change at an initial fan speed of 80 percent. One case was run without fan speed control or bias, and the second case included the fan speed anticipation input to the fuel control. The response obtained for these two conditions is also listed in Table XIII.

Based on an evaluation of these results, it can be determined that a remote turbojet lift system can achieve transient thrust changes of 10 percent within a time less than 0.30 second. In order to achieve these levels of response, some method of throttle overdemand or anticipation such as fan speed bias will be required. This analysis represents an initial effort at the evaluation of lift system dynamics, and should not be interpreted as an optimum system in terms of response times.

Further studies and analyses are desirable to optimize the system and should include consideration of component life and operating margins and the dynamics and requirements of a typical aircraft control system.

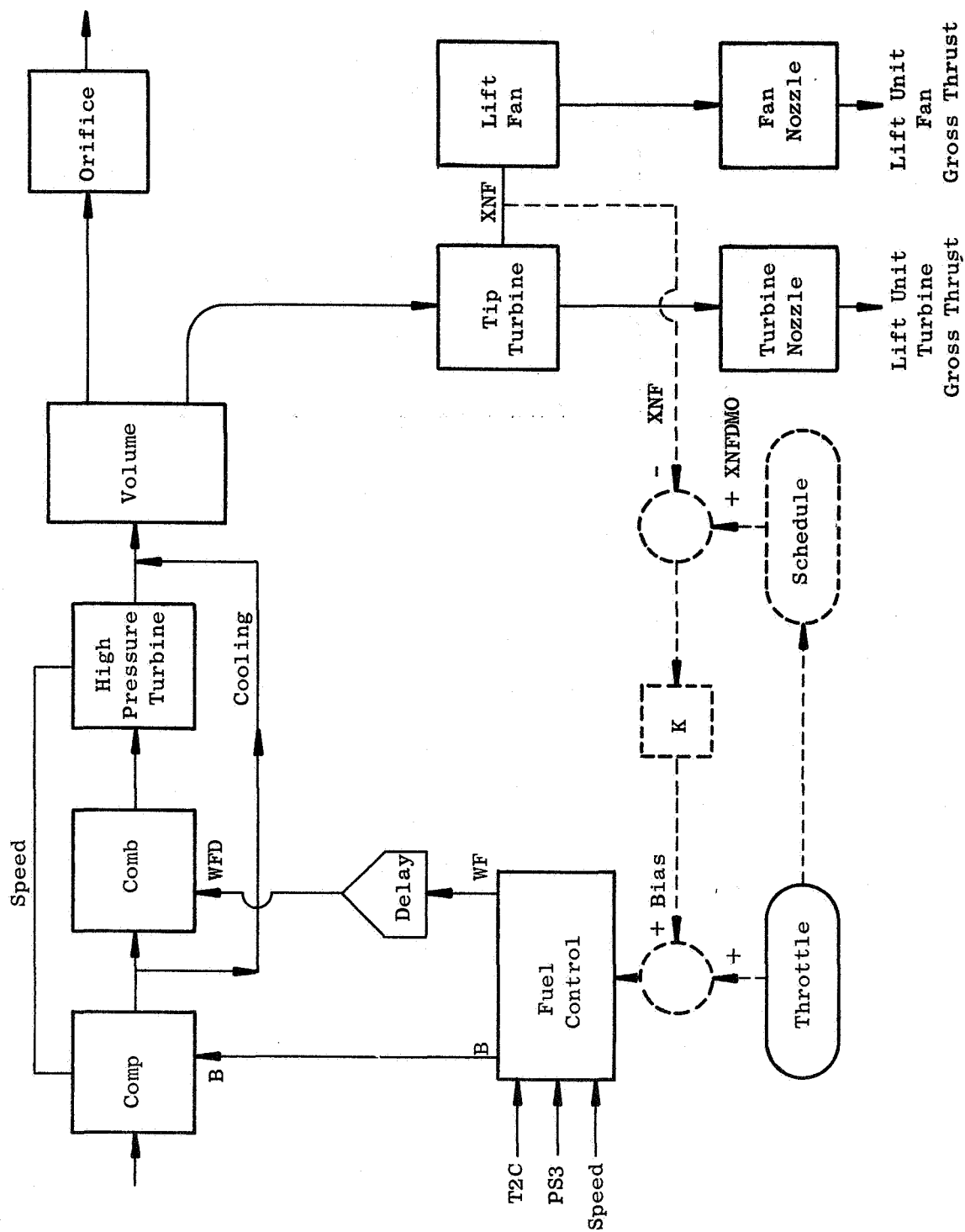


Figure 46. Schematic Representation of Turbojet System for Dynamic Analysis.

Table XIII. Turbojet System Transient Response.

<u>Initial Fan Speed, %</u>	<u>Maneuver</u>	<u>Time Required for 10% Thrust Change, Seconds</u>
60	Throttle Overdemand	0.13
70	Throttle Overdemand	0.15
80	Throttle Overdemand	0.17
90	Throttle Overdemand	0.20
80	Throttle Step	2.00
80	Throttle Step with Fan Speed Bias	0.19

2. Turbofan System

The turbofan lift system was analyzed in a manner similar to the turbojet system. In this case, the dynamic representation is increased in complexity because of the two-spool turbofan gas generator plus the fan duct combustor system. Basically, this dynamic representation is equivalent to the three-spool engine system with two combustion systems. The block diagram of the model used in the dynamic representation for this system is shown in Figure 47.

The engine control system in this case incorporates a speed control based on the gas generator core speed. A proportional schedule of duct combustor fuel flow is also incorporated into the throttle position. Thus, a throttle demand will request a proportionate change in gas generator core speed and a scheduled change in duct combustor fuel flow. The dynamic representation of the system components is similar to that used for the turbojet system representation.

A series of system transients was investigated using the throttle to accomplish lift control. Again, as for the turbojet system, this method of control does not necessarily represent an actual aircraft control mode, but is adequate for the intended response study. The system transient behavior was investigated for initial fan speeds of approximately 60, 70, 80, and 90 percent. For each investigation, throttle overdemand was used with a limiting throttle angle established by the 100 percent design speed of the gas generator core rotor.

The response times observed during these transients (that is, the time required to achieve a 10 percent thrust change) are presented in Table XIV. The results show some deterioration of response at the higher thrust settings. This effect is caused by a reduction in core engine acceleration due to the limiting throttle input equivalent to the design speed.

During this analysis, no form of anticipation or fan speed bias was included in the control system. Incorporation of such features in the system could improve the response times, especially at the high initial thrust settings, to a level adequate to meet the desired 0.30 second criteria. Note that the transient studies for both of these systems employed throttle motion to command a thrust change. There are many other concepts of thrust modulation which could be employed in remote lift units; for example - exit louver thrust spoiling, fan duct pressure loss variation using valves, and variation of duct combustor temperature. Each of these control methods represents potential improvements in system response which could be employed either as the prime control method or in association with the throttle methods explored in these investigations.

H. ADVANCED RLF SYSTEMS USING TURBOFAN GAS GENERATORS

One of the advanced remote lift fan systems developed during the propulsion studies employs a turbofan gas generator as the source for high energy gases.

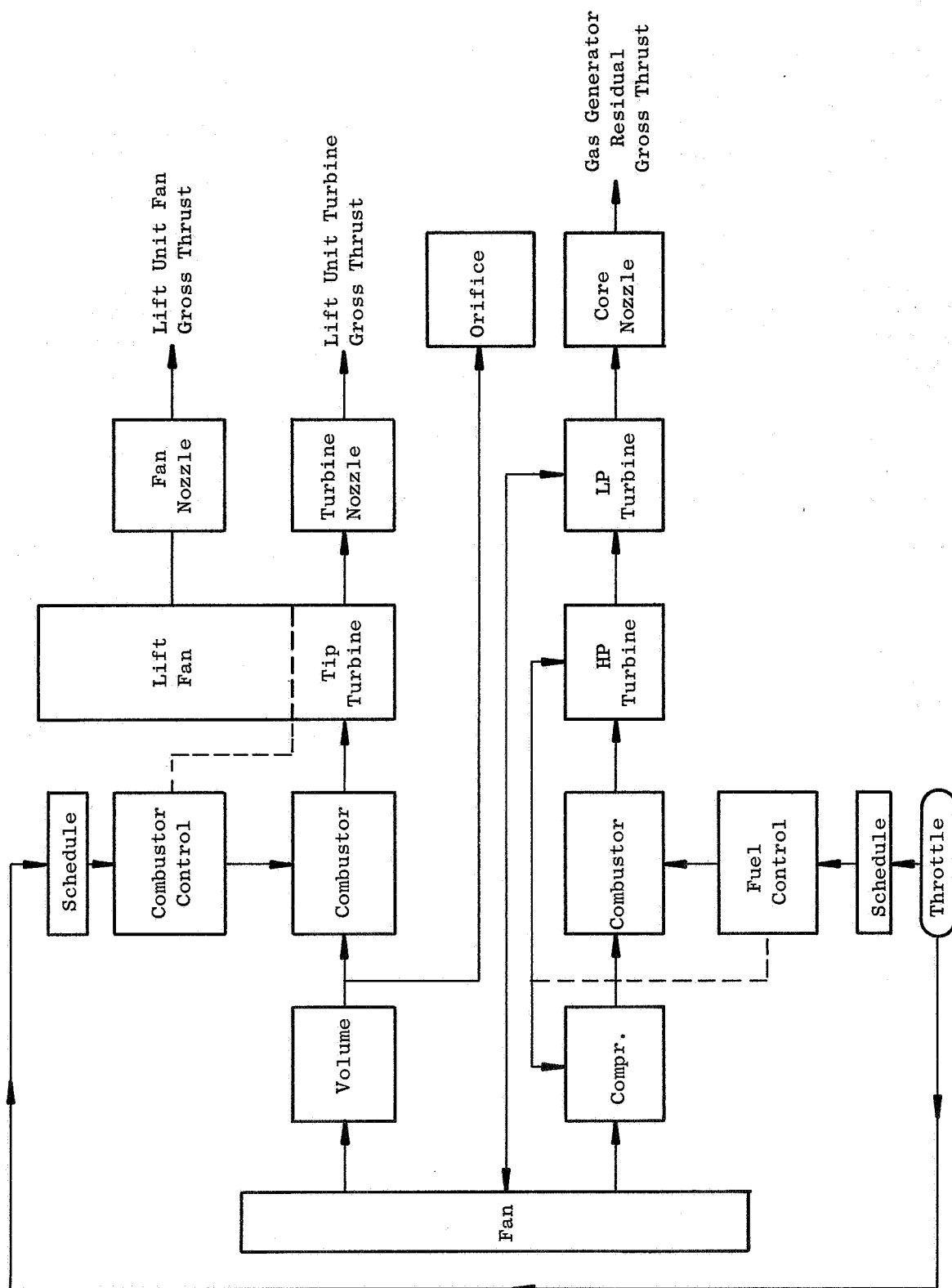


Figure 47. Turbofan Gas Generator System Transient Model Schematic.

Table XIV. Summary of Response Times for the Turbofan Lift System.

Initial Fan Speed, %	Maneuver	Time Required for 10% Thrust Change, Seconds
64	Throttle Demand for 100% Core Speed	0.20
71		0.21
80		0.26
93		>1.00

This system obtains the gas from the gas generator fan system, passes it through a burner, and drives the fan tip turbine. A control system for this arrangement could employ both burner temperature rise and duct pressure loss to control the thrust of the remote lift fan units. This method adds two variables, pressure and temperature, for lift control where the more conventional turbojet gas generator system is limited by the relationship of pressure and temperature as provided at the gas generator discharge.

The proposed control system is shown in Figure 48. This control system is represented by two lift units operating with a single, remotely located, turbofan gas generator. Other schemes are possible using two gas generators and four lift units or two half-size gas generators and two full-size lift units. These latter cases may be desired to cover engine-out and fan-out operation; but, the response rates or transients as evaluated for the two-on-one system apply equally as well for other methods of interconnecting the full-size lift units.

The method of modulating power for this type of control system uses a particular combination of burner temperature rise and control valve pressure loss such that the flow function or effective area, as reflected in the turbofan system, remains constant. In this manner, it is possible to modulate lift unit thrust with no change of gas generator operating conditions. This type of control system then lends itself to a fan-alone type of transient analysis, since the transient response of the gas generator is now removed from the problem. The control schedule for this system was established by first determining the turbofan operating point as required to achieve the lift levels consistent with maximum control. The thrust of a single lift unit was then modulated by an appropriate schedule of temperature and pressure maintaining constant flow function in the turbofan discharge stream. A typical control schedule of temperature and pressure for the maximum turbofan gas generator power settings is given in Figures 49 and 50. Three levels of lift are identified; the neutral lift of 10,000 pounds with no control input, the maximum lift of 12,500 pounds for full-up control, and the 7,500 pounds or full-down control. For constant total lift with control, the opposite hand lift units must be modulated in opposite control directions. The control schedule as shown achieves the full-down lift by reductions of pressure and temperature to the lift unit. Another scheme could be used to develop the full-down lift by means of thrust spoiling. This method of partial control may be desirable because of the fast response associated with thrust spoiling. The maximum control levels can only be achieved by power level control, because the lift unit designs are not capable of continuous or long time operation at the high temperature levels.

Using estimated dynamic characteristics for the louver and control valve actuators and for the duct burner fuel control system, a typical time history of lift is as shown in Figure 51. The rapid drop in lift of the decreasing lift unit is a result of the thrust response spoiling system. The slower response of the increasing fan is the result of the rotor inertia effects and assumed burner control characteristics. It is apparent that

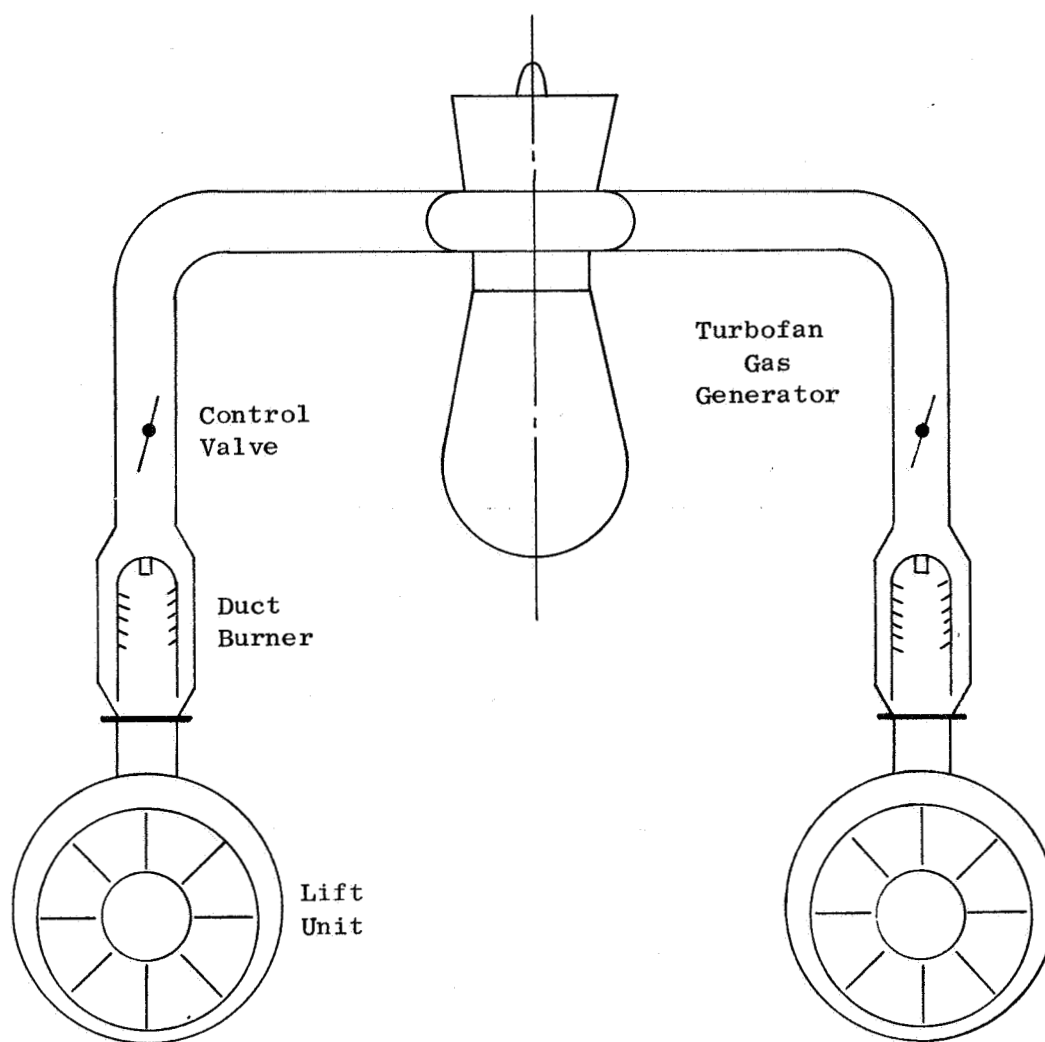


Figure 48. Schematic of a Control System for a Lift Unit with a Turbofan Gas Generator.

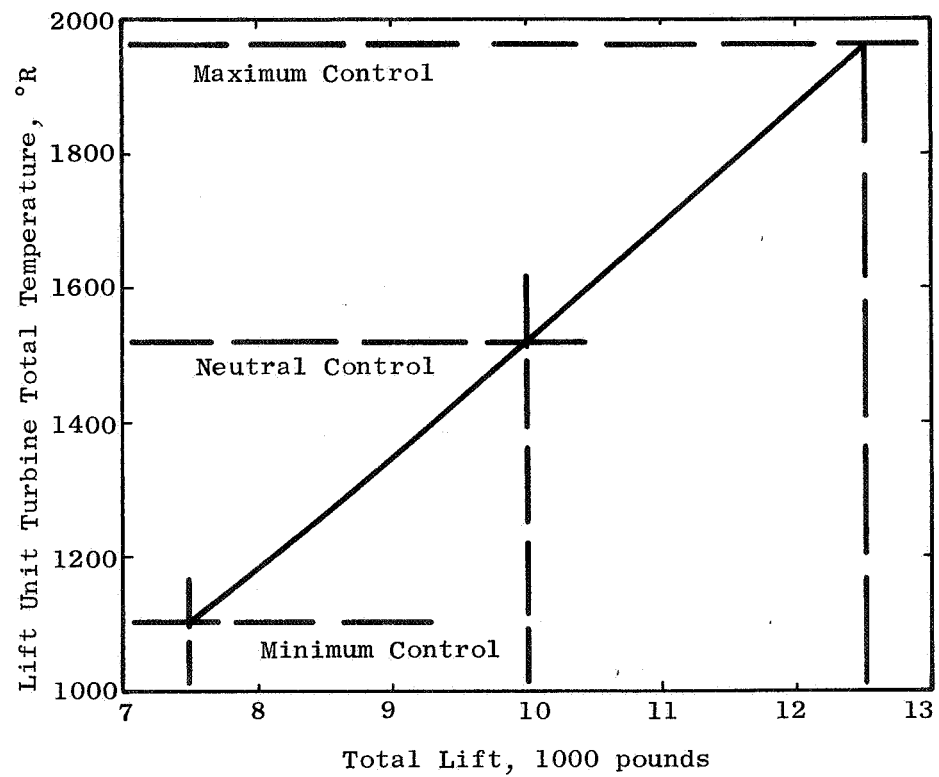


Figure 49. Typical Lift Unit Turbine Temperature Control Schedule, Maximum Power, Hot (90° F) Day.

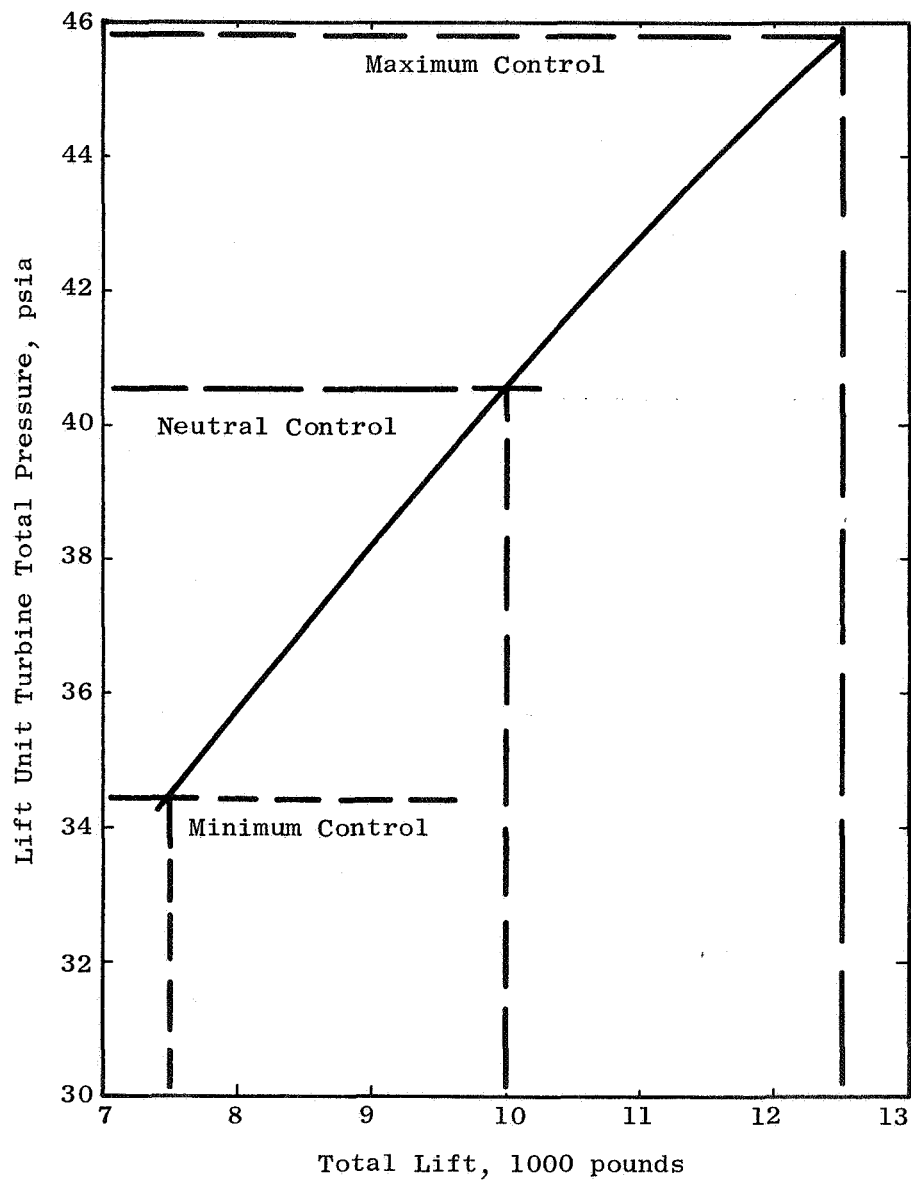


Figure 50. Typical Lift Unit Turbine Pressure Control Schedule, Maximum Power Setting, Hot (90° F) Day.

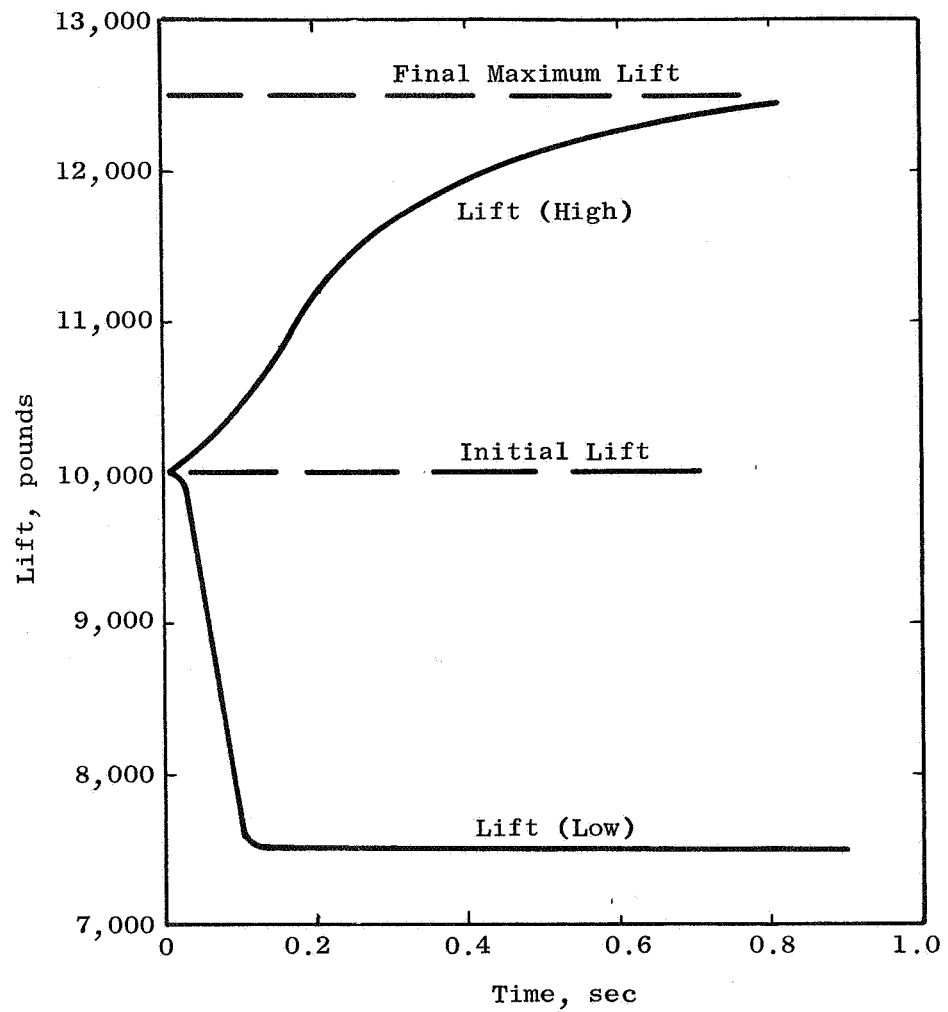


Figure 51. Typical Lift Time History for a Lift Unit with a Turbofan Gas Generator.

the overall thrust response, high lift minus low lift, could not approach an acceptable level without the louver-spoiling capability.

The resulting moment developed by the two lift units is given in Figure 52. The characteristic shows that the effective time to achieve 63 percent of the commanded change is about 0.13 second. During this control transient, there is some reduction of overall lift of the two units. The maximum lift loss increment is about 9 percent at about 0.15 second after the control input. This is one characteristic of the combined system using both thrust spoiling and power modulation that is not desirable, but should be tolerable because of the very short duration of the lift deficiency.

The data presented in Figures 51 and 52 are based on a reasonable assumption of valve control and burner response characteristics. The complete control input transient is assumed to have occurred during the initial 0.15 second. A study of effects of the control lags produced the characteristics shown in Figure 53. The data show a change in time constant of about one-half of the control lag. The time constant with a zero time control lag is the classical fan-alone time constant and is shown to be 0.21 second for the case of 25 percent control inputs.

An analysis of the effects of nominal power setting and levels of control input was performed. The results are shown in Figure 54 for both the fan thrust component and the case where both fan thrust and thrust spoiling modulation are used. Maximum time constants for the combination system are about 0.15 second for the range of nominal lift levels from 60 to 100 percent. Thus this type of lift unit control system is capable of meeting the design requirement of an effective time constant of 0.2 second.

I. INTEGRAL LIFT FAN ENGINE AND AIRCRAFT TRANSIENT RESPONSE

Remote Lift Fan engine response and general VTOL aircraft transient requirements have been previously discussed in Sections III-F and III-G. This section discusses the results of studies to determine the dynamic response of the Integral Lift Fan engine and the response interactions with an airplane.

A digital lift engine transient model was constructed to simulate the Integral Lift Fan and its control system. To minimize cost, the control (Figure 55) was designed to operate at sea level static, standard day conditions only. The maximum fuel schedule was set to achieve response time with more than 12% compressor stall margin and approximately 100° turbine inlet temperature overshoot.

The results of this study indicate that the engine can achieve 63% of a 20% thrust demand in 0.275 second while maintaining reasonable compressor stall margin (12%) and turbine inlet temperature overshoot (100° F).

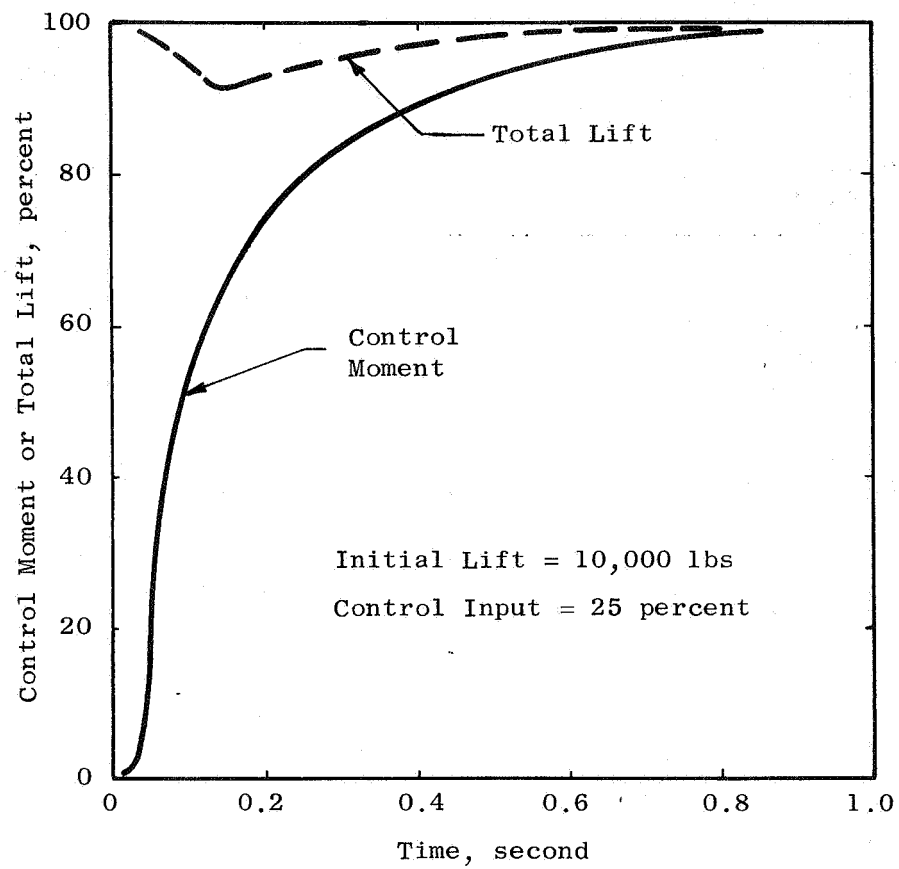


Figure 52. Typical Control Lift and Moment Time History for a Lift Unit with a Turbo-fan Gas Generator.

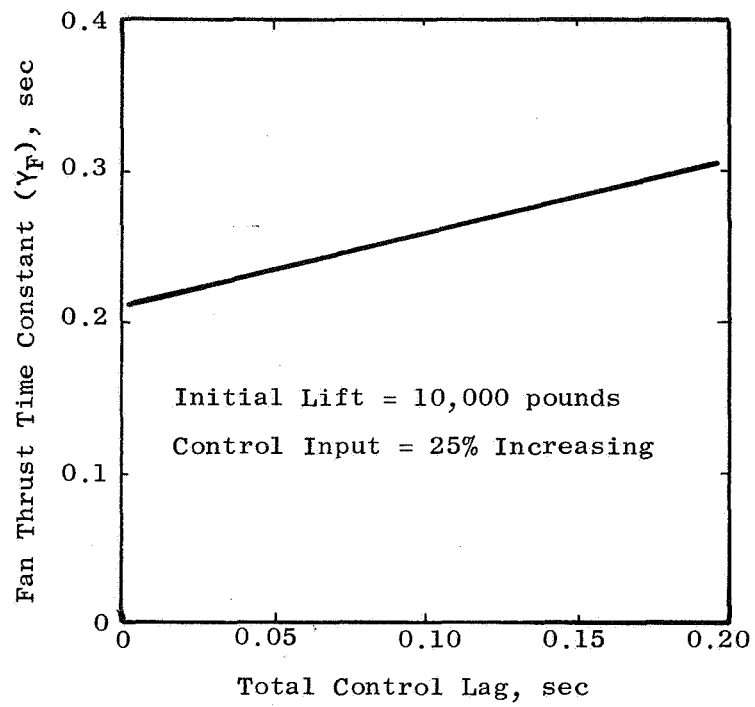


Figure 53. Effects of Control Lag on Fan Thrust Response.

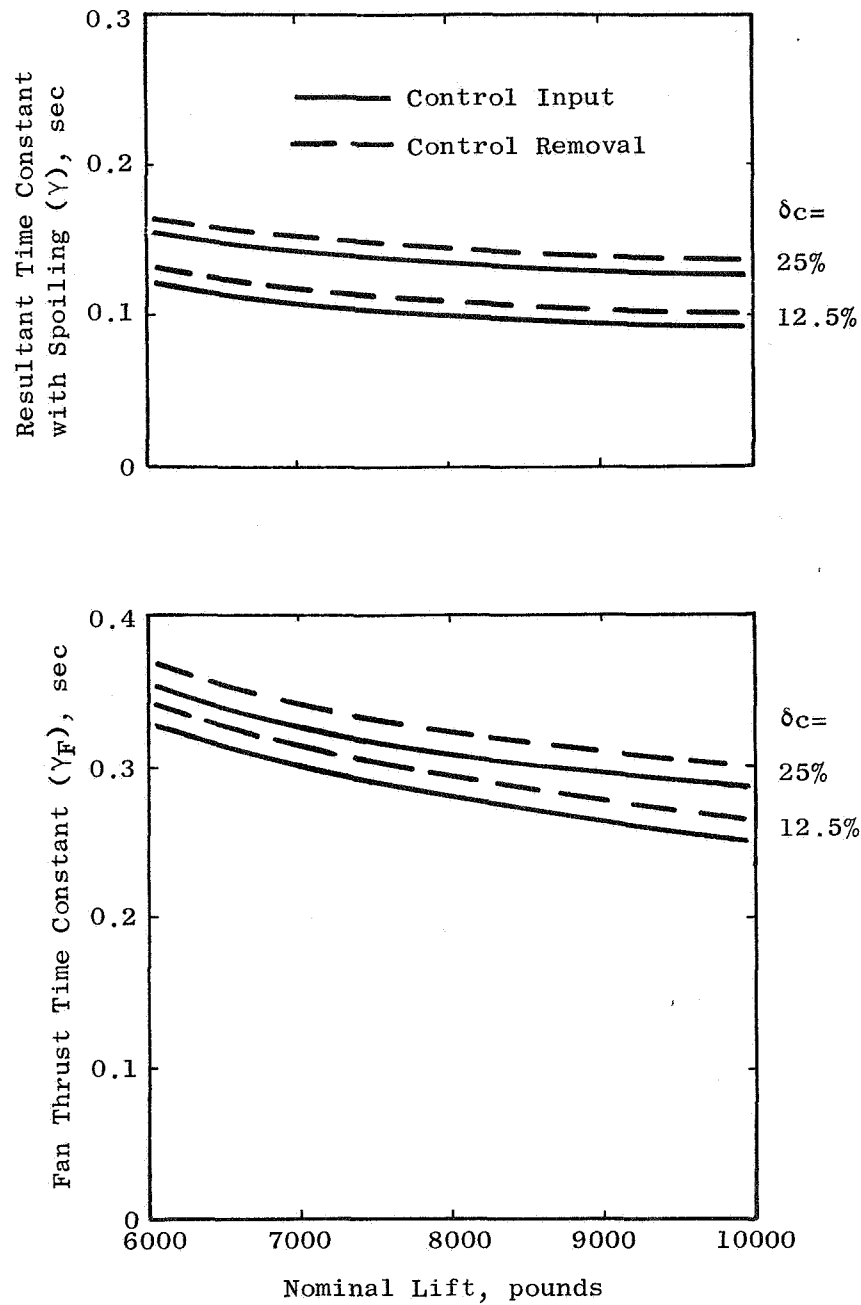


Figure 54. Variation of Thrust Time Constant with Power Setting.

Following this engine response activity, a closed-loop aircraft roll control (Figure 56) was simulated and optimized for stability, response, and overshoot. The step, gust, and hovering simulation were chosen as typical maneuvers.

The VTOL airplane chosen weighted 120,000 pounds at liftoff, utilized 2 cruise engines and 12 lift engines, and had a roll moment of inertia of 412,500 pound-feet-seconds squared. The lift engines, six per side, were all at an equal mount lever arm of 8.39 feet, the total wing span being 83.9 feet. For roll simulations, all engines were assumed to be responding identically per side, with the opposite-side engines responding in a "mirror-image" fashion in order to eliminate the necessity for multiple engine simulations.

When engines with the above transient capability were applied to the model, the airplane achieved the following performance:

- An angular acceleration rate of 0.53 rad/sec^2
- Rolled 8.9 degrees in 1 second
- Reached a lateral acceleration rate of 0.155 ft/sec^2 in 1 second

The following transient plots for Run 35 illustrate the engine and airplane open-loop response for the above. These responses were all in the proximity of suggested airplane requirements.

Run 44 illustrates the severe turbine transients which could result from a closed-loop system response to a 10° demanded roll angle. Run 45 shows the system response to a 5° triangular-wave "gust." A typical hovering maneuver was chosen for Run 46, where the demanded angle is altered nine times during a 20 second period, within $\pm 3^\circ$.

This study shows that rapid thrust response is feasible with the integral lift-fan system. The airplane engine mounting lever-arms and total inertia are very strong influences on overall response and should be optimized so that engine life is not sacrificed by overly severe turbine temperature transients.

The engine and aircraft controls should be considered as part of the total system in order to achieve optimum engine and system life and response.

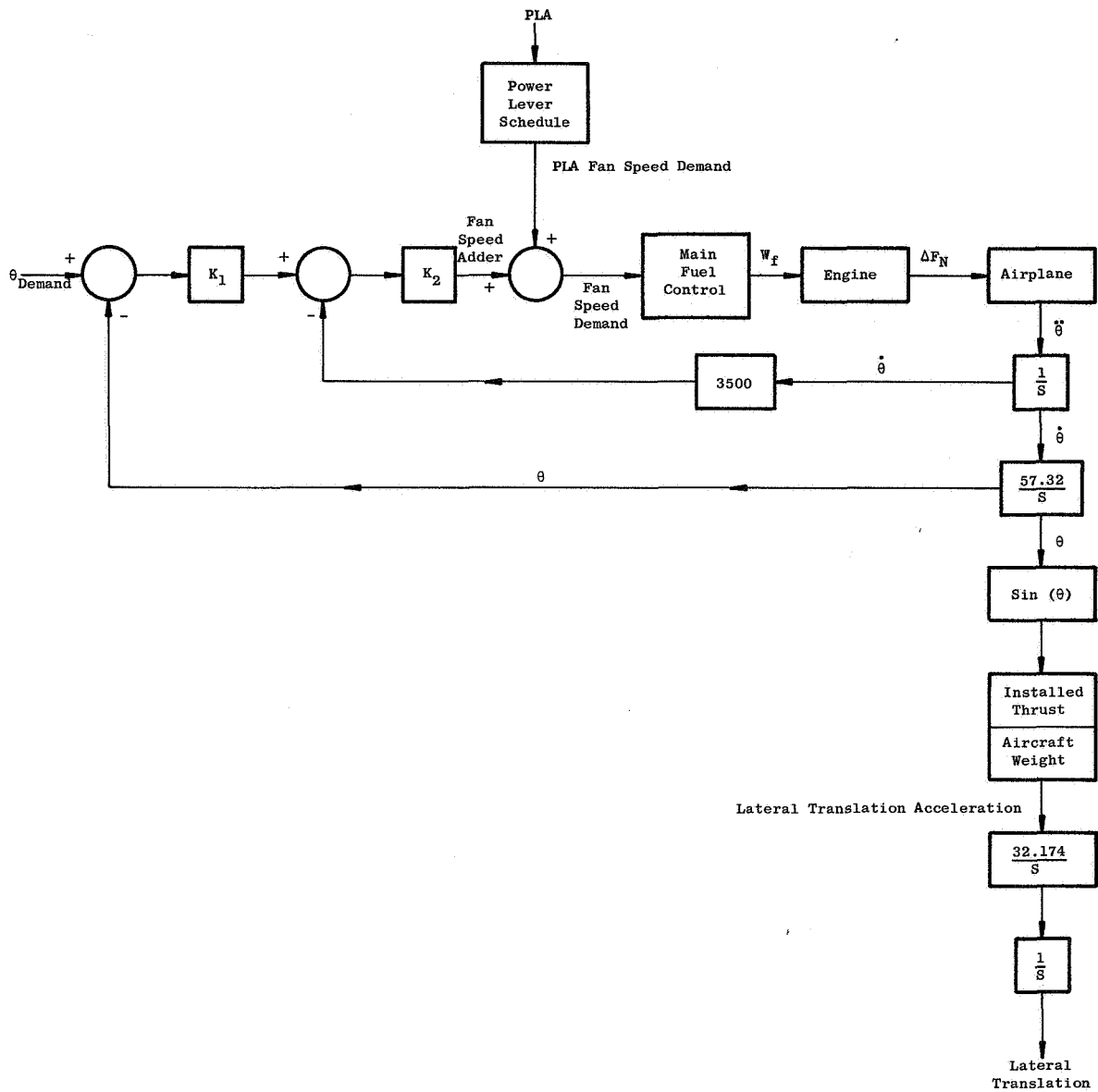


Figure 56. Simulated Closed-Loop Aircraft Roll Control Schematic.

Nomenclature Table: For use with interpretation of Runs 35, 44, 45 and 46.

SMC	Compressor stall margin %
T ₄	Turbine inlet temperature - ° R
SPD	High pressure rotor speed - rpm
XNF	Low pressure rotor speed - rpm
FN	Net thrust, uninstalled - pounds
PCNDMD	Percent demanded fan speed - %
T ₈	Core exhaust temperature - ° R
W ₈	Core exhaust flow rate - lbm/sec
W ₂	Fan flow rate - lbm/sec
WF	Fuel flow rate - lbm/hour
PS3	Compressor static discharge pressure - psia
DISLAT	Lateral translation distance - feet
ACCLAT	Lateral translation acceleration - ft/sec ²
THETA	Roll angular translation - degrees
THETDD	Roll angular acceleration - rad/sec ²

SECTION IV

RESEARCH AIRPLANE ENGINE SURVEY

A. INTRODUCTION

Current Ames research V/STOL aircraft studies have been based on application of the LF460/YJ97-GE-100 remote lift fan engine system. Under this task, other existing General Electric turbine engines were surveyed as possible alternative powerplants for the research aircraft. Both integral and remote fan lift engines were evaluated. The following items were to be determined in the survey:

- Which, if any, engines may be used for the Ames research V/STOL aircraft.
- Modifications which would have to be made to the candidate engines.
- Availability of the engines

... and only for those candidate engines retained on completion of the above items, further determine the following ...

- Estimate performance of the lift engine when the candidate engine is used as the lift engine or as part of the lift engine.
- Price and time estimates to develop through flight worthiness test (FWT) status and deliver 10 engines.

B. REMOTE LIFT FAN SYSTEMS

1. Turbojet Gas Generators

Available General Electric turbojet and turboshaft engines (with the power turbine and associated hardware removed) were evaluated for suitability as remote lift fan system gas generators. Presented in Table XV are engine flow size, turbine discharge flow function, ideal gas horsepower (ideal extraction to ambient pressure), specific ideal horsepower, gas generator weight, ideal horsepower-to-weight ratio, and lift developed for lift fan design pressure ratios of 1.35 and 1.25. The values of lift were calculated using simplified lift fan component performance assumptions. The data for the J97/1.35 pressure ratio fan therefore do not exactly match J97/LF460 performance defined under the LF460 detail design program. The performance data of the 1.35 pressure ratio fans are representative of the LF460 configuration with associated acoustic treatment losses, while the performance of the 1.25 pressure ratio fans was calculated using Remote Lift Fan levels and the attendant acoustic treatment losses. The pressure ratios of the fans represent design values. The lift values presented are based on the reduced pressure ratios which occur at the Nominal Rated operating condition.

Table XV. Research Airplane Engine Survey.

ENGINE	Airflow (lb/sec)	Gas Generator Exit Flow Function ($\sqrt{\frac{g}{R}} \times \ln^2/\text{sec}$)	Drive Power Required (HP)	Ideal Power Available (HP)	Specific Power (HP/(lb/sec))	Power/ Engine Weight (HP/lb)	Lift* P/P des=1.35 (lbs)	Lift* P/P des=1.25 (lbs)
<u>TURBOJET GAS GENERATORS</u>								
T58-3	12.4	14.1	-	1525	122	5.25	1400	1550
T58-10	13.7	14.9	-	1965	143	-	1840	2030
T58-16	13.9	14.5	-	2380	170	-	2230	2470
T64-6	24.5	25.0	-	3340	136	6.07	3150	3470
T64-16	28.2	25.5	-	4940	174	-	4710	5220
T64-413	27.7	25.6	-	4640	167	-	4400	5890
J85-5	43.7	52.8	-	5640	128	16.1	5220	5720
J85-21	51.9	56.6	-	8210	155	18.9	7700	8490
J97	68.9	56.2	-	13500	195	18.7	12910	14320
J79	170	153.1	-	27100	158	9.6	25910	28690
<u>TURBOFAN CORES</u>								
TF34	32.3	28.0	-	4365	146	-	4160	4600
F101	61.0	58.2	-	7560	132	-	7160	7900
TF39	137	93.8	-	24700	196	-	23670	26310
CF6-6	130	98.4	-	21600	185	-	23340	25870
CF6-50	136	118.0	-	19300	142	-	18530	20460
<u>AIR PUMPS**</u>								
T58-3	12.4	12.1	1131	-	176	-	2270	2520
T64-6	24.5	25.2	2071	-	167	-	4270	4730
TF34	32.3	30.5	2960	-	180	-	6050	6730
J85-5	43.7	45.0	3810	-	169	-	7690	8520
J85-21	51.9	51.8	4650	-	173	-	9360	10350
F101	61.0	52.0	6060	-	192	-	12140	13490
J97	68.9	67.7	6110	-	175	-	12570	13900
TF39	137	134.5	12140	-	175	-	25000	27710
J79	170	154.3	16600	-	185	-	32390	35930

*Lift Unit Tip Turbine Efficiency = 0.83
Lift Unit Turbine Discharge Mach No. = 0.40

**Air Pump performance based on use of the front sections of existing compressors and assuming heat addition to 1860°R at lift unit.

The data of Table XV show that, on the basis of ideal specific horsepower (HPi) and horsepower-to-weight ratio, the J97 is the most attractive lift fan gas generator. On the basis of HPi/Wt the J85-21 is also an attractive lift fan gas generator; however, its power HPi, due to lower cycle pressure ratio, would result in a lower system bypass ratio. The lower bypass ratio introduces the need for relatively larger (airflow) gas generators and larger gas ducts.

2. Turbofan Cores

Also presented in Table XV are similar data for unsupercharged turbofan cores. Weights are not readily available as frames should be redesigned and low pressure spool and associated hardware should be removed. These turbofan cores were assumed to be operating with the same turbine flow function as when supercharged in the turbofan version. The turbine inlet temperatures are therefore reduced in proportion to the reduction in core compressor inlet temperature. As indicated in the Table, the TF39 core is competitive on an ideal-specific HP basis; however, since the turbofan cores are designed for higher cycle pressure ratios resulting from fan supercharging, the system weight would be penalized.

3. Air Pumps

The characteristics of air pump compressors which could be obtained by using the front sections of different existing compressors are shown at the bottom of Table XV. The resulting airflow and horsepower required are presented. An indication of the power system size required to drive the air pump can be seen by comparing the horsepower required with the values of ideal horsepower for the turbojets, allowing for appropriate reductions in available horsepower for power turbine efficiency and higher-than-ambient discharge total pressure. The lift values for the air pumps are based on assuming heat addition in the air-pump flow to 1860° R.

4. LF460/YJ97 Lift Fan System

As a result of the engine survey, it was concluded that the LF460/YJ97-GE-100 remained the most suitable system for the Ames research airplane. This lift fan system consists of an LF460 remote lift unit driven by the turbine discharge gas from a YJ97-GE-100 turbojet engine. The lift unit incorporates a single-stage fan and tip turbine, and includes an integral bellmouth inlet and double-entry scroll system. The detail design of this lift unit is presented in Reference 3. The YJ97-GE-100 engine is an axial flow, single-rotor turbojet with variable compressor stator vanes and a two-stage turbine. The basic engine is modified by removal of the fixed-area, convergent-nozzle system. Engine specification data are presented in Reference 4.

Electronic Data Processing (EDP) performance decks to calculate estimated performance for this lift fan system were developed under Contract NAS2-6056 for the National Aeronautics and Space Administration. The EDP decks include

the necessary programming provisions to permit the calculation of engine performance separately or as a subroutine of a larger program. Instructions for use of these decks are provided in References 5 and 6.

SECTION V

PERFORMANCE NOMENCLATURE

ALT	Altitude, geopotential feet
BETAB	Resultant thrust vector angle relative to fan exit plane, degrees
CASE	Case identification number
ETARGG	Gas generator ram recovery
ETARLU	Lift unit ram recovery
FDBASE	Lift unit base drag, lbs
FDGG	Gas generator ram drag per lift unit*, lbs
FDLU	Lift unit ram drag, lbs
FGGG	Turbofan gas generator residual gross thrust per lift unit*, lbs
FGLU	Lift unit gross thrust including base drag, lbs
FNG	System net thrust per lift unit**, lbs
MO	Flight Mach number
PCNFGG	Gas generator fan rotor speed (if turbofan), percent
PCNFLU	Lift unit rotor speed, percent
PCNGG	Gas generator rotor speed (core rotor speed, if turbofan), percent
PEXGG	Gas generator exit total pressure to duct system, psia
PO	Ambient static pressure, psia
PS	Power setting
P2GG	Gas generator compressor inlet total pressure, psia
P2LU	Lift unit inlet total pressure, psia
P22LU	Lift unit inlet total pressure at face of fan rotor, psia
TEXGG	Gas generator exit total temperature to duct system, °R
TO	Ambient static temperature, °R
T2	Inlet total temperature, °R
T8GG	Turbofan gas generator core exhaust temperature, °R
T8LU	Lift unit turbine exhaust temperature, °R
T28LU	Lift unit fan exhaust temperature, °R
VOKNTS	Flight velocity, knots
V8GG	Turbofan gas generator core exhaust velocity, ft/sec
V8LU	Lift unit turbine exhaust velocity, ft/sec
V28LU	Lift unit fan exhaust velocity, ft/sec
WEXGG	Gas generator duct system flow per lift unit*, lb/sec
WFM	Fuel flow per lift unit*, lb/hr
WOGG	Gas generator inlet airflow per lift unit*, lbs/sec
WOLU	Lift unit inlet airflow, psia
W8GG	Turbofan gas generator core exhaust flow per lift unit*, lb/sec
W8LU	Lift unit turbine exhaust flow, lb/sec
W28LU	Lift unit fan exhaust flow, lb/sec

* Gas generator gas flow rates, fuel flow, ram drag and thrust are on a per lift unit basis. Multiply these values by 2 to get total gas generator values for the assumed 2 lift unit/1 gas generator system.

** Turbofan gas generator residual thrust (FGGG) is included and assumed to be codirectional with lift unit thrust.

APPENDIX A

REMOTE LIFT FAN SYSTEM A

(Turbojet/1.25 Pressure Ratio Lift Units)

Estimated Installed VTOL Performance

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
1.0	1.00	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
2.0	1.00	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
3.0	1.00	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
4.0	1.00	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
5.0	1.80	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
6.0	1.80	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
7.0	1.80	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
8.0	1.80	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
9.0	2.60	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
10.0	2.60	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
11.0	2.60	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
12.0	2.60	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
13.0	3.40	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
14.0	3.40	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
15.0	3.40	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
16.0	3.40	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
17.0	4.00	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
18.0	4.00	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
19.0	4.00	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
20.0	4.00	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
21.0	1.00	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
22.0	1.00	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
23.0	1.00	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
24.0	1.00	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
25.0	1.80	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
26.0	1.80	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
27.0	1.80	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
28.0	1.80	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
29.0	2.60	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
30.0	2.60	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
31.0	2.60	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
32.0	2.60	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
33.0	3.40	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
34.0	3.40	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
35.0	3.40	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
36.0	3.40	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
37.0	4.00	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
38.0	4.00	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
39.0	4.00	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	
40.0	4.00	0. 0.07557	50.00	14.696	518.67	1.0000	14.755	519.26	

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	W0GG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
1.0	66.53	50.03	1860.2	67.25	0.	100.0	0.	0.	0.
2.0	66.53	50.03	1860.2	67.25	0.	100.0	0.	0.	0.
3.0	66.53	50.03	1860.2	67.25	0.	100.0	0.	0.	0.
4.0	66.53	50.03	1860.2	67.25	0.	100.0	0.	0.	0.
5.0	61.16	43.85	1704.6	61.67	0.	96.0	0.	0.	0.
6.0	61.16	43.85	1704.6	61.67	0.	96.0	0.	0.	0.
7.0	61.16	43.85	1704.6	61.67	0.	96.0	0.	0.	0.
8.0	61.16	43.85	1704.6	61.67	0.	96.0	0.	0.	0.
9.0	54.35	36.87	1541.7	54.66	0.	92.0	0.	0.	0.
10.0	54.35	36.87	1541.7	54.66	0.	92.0	0.	0.	0.
11.0	54.35	36.87	1541.7	54.66	0.	92.0	0.	0.	0.
12.0	54.35	36.87	1541.7	54.66	0.	92.0	0.	0.	0.
13.0	47.19	30.21	1386.9	47.32	0.	88.0	0.	0.	0.
14.0	47.19	30.21	1386.9	47.32	0.	88.0	0.	0.	0.
15.0	47.19	30.21	1386.9	47.32	0.	88.0	0.	0.	0.
16.0	47.19	30.21	1386.9	47.32	0.	88.0	0.	0.	0.
17.0	41.72	26.05	1287.3	41.76	0.	85.0	0.	0.	0.
18.0	41.72	26.05	1287.3	41.76	0.	85.0	0.	0.	0.
19.0	41.72	26.05	1287.3	41.76	0.	85.0	0.	0.	0.
20.0	41.72	26.05	1287.3	41.76	0.	85.0	0.	0.	0.
21.0	66.76	50.29	1863.9	67.48	0.	100.1	0.	0.	0.
22.0	66.76	50.29	1863.9	67.48	0.	100.1	0.	0.	0.
23.0	66.76	50.29	1863.9	67.48	0.	100.1	0.	0.	0.
24.0	66.76	50.29	1863.9	67.48	0.	100.1	0.	0.	0.
25.0	61.37	44.04	1706.7	61.88	0.	96.1	0.	0.	0.
26.0	61.37	44.04	1706.7	61.88	0.	96.1	0.	0.	0.
27.0	61.37	44.04	1706.7	61.88	0.	96.1	0.	0.	0.
28.0	61.37	44.04	1706.7	61.88	0.	96.1	0.	0.	0.
29.0	54.54	37.01	1543.2	54.84	0.	92.1	0.	0.	0.
30.0	54.54	37.01	1543.2	54.84	0.	92.1	0.	0.	0.
31.0	54.54	37.01	1543.2	54.84	0.	92.1	0.	0.	0.
32.0	54.54	37.01	1543.2	54.84	0.	92.1	0.	0.	0.
33.0	47.35	30.37	1389.5	47.48	0.	88.1	0.	0.	0.
34.0	47.35	30.37	1389.5	47.48	0.	88.1	0.	0.	0.
35.0	47.35	30.37	1389.5	47.48	0.	88.1	0.	0.	0.
36.0	47.35	30.37	1389.5	47.48	0.	88.1	0.	0.	0.
37.0	41.87	26.14	1288.0	41.91	0.	85.1	0.	0.	0.
38.0	41.87	26.14	1288.0	41.91	0.	85.1	0.	0.	0.
39.0	41.87	26.14	1288.0	41.91	0.	85.1	0.	0.	0.
40.0	41.87	26.14	1288.0	41.91	0.	85.1	0.	0.	0.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WDLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
1.0	1.0000	14.696	14.580	669.47	604.	649.	669.47	57.25	559.	1514.
2.0	1.0000	14.696	14.581	665.68	607.	652.	665.68	57.25	559.	1515.
3.0	1.0000	14.696	14.586	651.87	616.	664.	651.87	67.25	560.	1516.
4.0	1.0000	14.696	14.593	634.03	626.	677.	634.03	67.25	561.	1517.
5.0	1.0000	14.696	14.602	605.57	545.	561.	605.57	61.67	552.	1422.
6.0	1.0000	14.696	14.604	602.03	547.	564.	602.03	61.67	552.	1422.
7.0	1.0000	14.696	14.608	589.02	555.	574.	589.02	61.67	552.	1422.
8.0	1.0000	14.696	14.613	572.53	564.	585.	572.53	61.67	553.	1423.
9.0	1.0000	14.696	14.628	522.13	468.	468.	522.13	54.66	543.	1333.
10.0	1.0000	14.696	14.629	518.74	470.	470.	518.74	54.66	543.	1333.
11.0	1.0000	14.696	14.632	507.01	476.	479.	507.01	54.66	544.	1334.
12.0	1.0000	14.696	14.636	492.21	483.	489.	492.21	54.66	544.	1334.
13.0	1.0000	14.696	14.650	431.11	385.	381.	431.11	47.32	535.	1248.
14.0	1.0000	14.696	14.651	428.32	387.	382.	428.32	47.32	535.	1249.
15.0	1.0000	14.696	14.653	418.52	392.	389.	418.52	47.32	536.	1249.
16.0	1.0000	14.696	14.655	406.25	397.	397.	406.25	47.32	536.	1249.
17.0	1.0000	14.696	14.661	375.71	335.	319.	375.71	41.76	531.	1182.
18.0	1.0000	14.696	14.662	373.23	336.	321.	373.23	41.76	531.	1182.
19.0	1.0000	14.696	14.664	364.70	341.	326.	364.70	41.76	532.	1182.
20.0	1.0000	14.696	14.665	354.10	346.	333.	354.10	41.76	532.	1183.
21.0	1.0000	14.755	14.639	669.86	624.	652.	669.86	67.48	560.	1516.
22.0	1.0000	14.755	14.640	665.69	627.	655.	665.69	67.48	560.	1517.
23.0	1.0000	14.755	14.646	650.36	635.	667.	650.36	67.48	561.	1518.
24.0	1.0000	14.755	14.653	630.62	645.	680.	630.62	67.48	562.	1519.
25.0	1.0000	14.755	14.661	607.28	568.	562.	607.28	61.88	553.	1419.
26.0	1.0000	14.755	14.662	603.34	570.	564.	603.34	61.88	553.	1419.
27.0	1.0000	14.755	14.667	589.08	578.	574.	589.08	61.88	554.	1419.
28.0	1.0000	14.755	14.673	570.57	586.	586.	570.57	61.88	555.	1420.
29.0	1.0000	14.755	14.687	520.85	491.	469.	520.85	54.84	544.	1332.
30.0	1.0000	14.755	14.688	517.05	493.	472.	517.05	54.84	544.	1333.
31.0	1.0000	14.755	14.692	503.90	499.	480.	503.90	54.84	545.	1333.
32.0	1.0000	14.755	14.696	487.34	506.	491.	487.34	54.84	546.	1335.
33.0	1.0000	14.755	14.710	428.74	410.	382.	428.74	47.48	536.	1250.
34.0	1.0000	14.755	14.710	425.65	411.	384.	425.65	47.48	536.	1250.
35.0	1.0000	14.755	14.713	414.79	416.	391.	414.79	47.48	537.	1250.
36.0	1.0000	14.755	14.715	401.38	422.	399.	401.38	47.48	537.	1251.
37.0	1.0000	14.755	14.721	371.44	359.	320.	371.44	41.91	532.	1183.
38.0	1.0000	14.755	14.722	368.75	360.	322.	368.75	41.91	532.	1183.
39.0	1.0000	14.755	14.723	359.24	365.	327.	359.24	41.91	532.	1184.
40.0	1.0000	14.755	14.725	347.60	370.	335.	347.60	41.91	533.	1184.

GENERAL ELECTRIC COMPANY
 RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
1.0	100.1	0.	4700.	0.	0.	0.	12330.	943.
2.0	99.8	15.00	4700.	0.	0.	0.	12297.	928.
3.0	99.0	30.00	4700.	0.	0.	0.	11920.	878.
4.0	98.1	40.00	4700.	0.	0.	0.	9867.	817.
5.0	90.0	0.	3762.	0.	0.	0.	10022.	769.
6.0	89.9	15.00	3762.	0.	0.	0.	9992.	758.
7.0	89.3	30.00	3762.	0.	0.	0.	9672.	717.
8.0	88.7	40.00	3762.	0.	0.	0.	7995.	670.
9.0	77.6	0.	2838.	0.	0.	0.	7423.	569.
10.0	77.5	15.00	2838.	0.	0.	0.	7392.	561.
11.0	77.1	30.00	2838.	0.	0.	0.	7140.	532.
12.0	76.6	40.00	2838.	0.	0.	0.	5888.	497.
13.0	64.2	0.	2061.	0.	0.	0.	5064.	387.
14.0	64.1	15.00	2061.	0.	0.	0.	5042.	381.
15.0	63.8	30.00	2061.	0.	0.	0.	4866.	362.
16.0	63.5	40.00	2061.	0.	0.	0.	4012.	340.
17.0	56.1	0.	1598.	0.	0.	0.	3828.	293.
18.0	56.0	15.00	1598.	0.	0.	0.	3811.	289.
19.0	55.8	30.00	1598.	0.	0.	0.	3678.	275.
20.0	55.5	40.00	1598.	0.	0.	0.	3032.	258.
21.0	97.7	0.	4729.	175.	1757.	0.	12669.	1007.
22.0	97.5	15.00	4729.	175.	1746.	0.	12627.	991.
23.0	96.8	30.00	4729.	175.	1706.	0.	12206.	934.
24.0	96.0	40.00	4729.	175.	1654.	0.	10065.	867.
25.0	88.3	0.	3780.	161.	1593.	0.	10389.	836.
26.0	88.2	15.00	3780.	161.	1583.	0.	10349.	823.
27.0	87.6	30.00	3780.	161.	1545.	0.	9987.	778.
28.0	87.1	40.00	3780.	161.	1497.	0.	8211.	724.
29.0	75.7	0.	2851.	143.	1366.	0.	7667.	627.
30.0	75.6	15.00	2851.	143.	1356.	0.	7626.	617.
31.0	75.2	30.00	2851.	143.	1322.	0.	7332.	584.
32.0	74.7	40.00	2851.	143.	1278.	0.	6008.	545.
33.0	62.5	0.	2073.	124.	1125.	0.	5201.	438.
34.0	62.4	15.00	2073.	124.	1117.	0.	5172.	432.
35.0	62.2	30.00	2073.	124.	1088.	0.	4963.	410.
36.0	61.9	40.00	2073.	124.	1053.	0.	4057.	384.
37.0	54.3	0.	1604.	110.	974.	0.	3859.	337.
38.0	54.2	15.00	1604.	110.	967.	0.	3835.	332.
39.0	54.0	30.00	1604.	110.	942.	0.	3672.	315.
40.0	53.9	40.00	1604.	110.	912.	0.	2995.	295.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
41.0	1.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
42.0	1.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
43.0	1.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
44.0	1.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
45.0	1.80	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
46.0	1.80	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
47.0	1.80	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
48.0	1.80	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
49.0	2.60	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
50.0	2.60	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
51.0	2.60	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
52.0	2.60	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
53.0	3.40	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
54.0	3.40	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
55.0	3.40	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
56.0	3.40	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
57.0	1.00	0.	0.22670	150.00	14.696	518.67	1.0000	15.232	524.02
58.0	1.00	0.	0.22670	150.00	14.696	518.67	1.0000	15.232	524.02
59.0	1.00	0.	0.22670	150.00	14.696	518.67	1.0000	15.232	524.02
60.0	1.00	0.	0.22670	150.00	14.696	518.67	1.0000	15.232	524.02

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
41.0	67.44	50.90	1870.3	68.18	0.	100.2	0.	0.	0.
42.0	67.44	50.90	1870.3	68.18	0.	100.2	0.	0.	0.
43.0	67.44	50.90	1870.3	68.18	0.	100.2	0.	0.	0.
44.0	67.44	50.90	1870.3	68.18	0.	100.2	0.	0.	0.
45.0	62.00	44.57	1712.6	62.52	0.	96.2	0.	0.	0.
46.0	62.00	44.57	1712.6	62.52	0.	96.2	0.	0.	0.
47.0	62.00	44.57	1712.6	62.52	0.	96.2	0.	0.	0.
48.0	62.00	44.57	1712.6	62.52	0.	96.2	0.	0.	0.
49.0	55.10	37.47	1548.6	55.41	0.	92.2	0.	0.	0.
50.0	55.10	37.47	1548.6	55.41	0.	92.2	0.	0.	0.
51.0	55.10	37.47	1548.6	55.41	0.	92.2	0.	0.	0.
52.0	55.10	37.47	1548.6	55.41	0.	92.2	0.	0.	0.
53.0	47.83	30.73	1394.2	47.97	0.	88.2	0.	0.	0.
54.0	47.83	30.73	1394.2	47.97	0.	88.2	0.	0.	0.
55.0	47.83	30.73	1394.2	47.97	0.	88.2	0.	0.	0.
56.0	47.83	30.73	1394.2	47.97	0.	88.2	0.	0.	0.
57.0	68.60	51.89	1879.8	69.36	0.	100.5	0.	0.	0.
58.0	68.60	51.89	1879.8	69.36	0.	100.5	0.	0.	0.
59.0	68.60	51.89	1879.8	69.36	0.	100.5	0.	0.	0.
60.0	68.60	51.89	1879.8	69.36	0.	100.5	0.	0.	0.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
41.0	1.0000	14.932	14.816	673.09	659.	660.	673.09	68.18	562.	1519.
42.0	1.0000	14.932	14.818	668.43	661.	663.	668.43	68.18	563.	1520.
43.0	1.0000	14.932	14.824	651.76	670.	674.	651.76	68.18	564.	1521.
44.0	1.0000	14.932	14.832	630.45	679.	688.	630.45	68.18	565.	1522.
45.0	1.0000	14.932	14.838	612.70	603.	567.	612.70	62.52	555.	1418.
46.0	1.0000	14.932	14.839	608.51	605.	570.	608.51	62.52	556.	1418.
47.0	1.0000	14.932	14.844	593.19	613.	580.	593.19	62.52	556.	1418.
48.0	1.0000	14.932	14.850	573.17	621.	592.	573.17	62.52	558.	1419.
49.0	1.0000	14.932	14.864	526.01	522.	474.	526.01	55.41	547.	1333.
50.0	1.0000	14.932	14.865	522.07	523.	476.	522.07	55.41	547.	1333.
51.0	1.0000	14.932	14.869	508.06	529.	485.	508.06	55.41	547.	1333.
52.0	1.0000	14.932	14.873	490.47	534.	495.	490.47	55.41	548.	1334.
53.0	1.0000	14.932	14.886	433.75	432.	387.	433.75	47.97	538.	1251.
54.0	1.0000	14.932	14.887	430.69	433.	388.	430.69	47.97	539.	1251.
55.0	1.0000	14.932	14.889	420.27	438.	395.	420.27	47.97	539.	1252.
56.0	1.0000	14.932	14.892	407.29	444.	404.	407.29	47.97	539.	1252.
57.0	1.0000	15.232	15.115	680.56	682.	672.	680.56	69.36	566.	1523.
58.0	1.0000	15.232	15.117	675.44	685.	675.	675.44	69.36	567.	1523.
59.0	1.0000	15.232	15.123	657.55	691.	687.	657.55	69.36	568.	1524.
60.0	1.0000	15.232	15.130	636.45	700.	701.	636.45	69.36	569.	1525.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
41.0	97.1	0.	4797.	354.	3531.	0.	12743.	1126.
42.0	96.9	15.00	4797.	354.	3507.	0.	12673.	1106.
43.0	96.3	30.00	4797.	354.	3419.	0.	12162.	1038.
44.0	95.7	40.00	4797.	354.	3308.	0.	9914.	958.
45.0	88.6	0.	3835.	325.	3215.	0.	10332.	945.
46.0	98.5	15.00	3835.	325.	3193.	0.	10271.	929.
47.0	88.1	30.00	3835.	325.	3112.	0.	9831.	875.
48.0	87.6	40.00	3835.	325.	3007.	0.	7972.	809.
49.0	76.6	0.	2892.	289.	2760.	0.	7314.	709.
50.0	76.5	15.00	2892.	289.	2739.	0.	7254.	697.
51.0	76.1	30.00	2892.	289.	2666.	0.	6892.	655.
52.0	75.7	40.00	2892.	289.	2573.	0.	5542.	606.
53.0	63.6	0.	2102.	251.	2276.	0.	4637.	486.
54.0	63.5	15.00	2102.	251.	2260.	0.	4615.	478.
55.0	63.2	30.00	2102.	251.	2205.	0.	4447.	453.
56.0	62.9	40.00	2102.	251.	2137.	0.	3645.	422.
57.0	98.8	0.	4909.	540.	5356.	0.	11836.	1206.
58.0	98.6	15.00	4909.	540.	5316.	0.	11727.	1181.
59.0	97.8	30.00	4909.	540.	5175.	0.	11109.	1100.
60.0	96.9	40.00	4909.	540.	5009.	0.	9039.	1011.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
61.0	1.00	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
62.0	1.00	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
63.0	1.00	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
64.0	1.00	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
65.0	1.80	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
66.0	1.80	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
67.0	1.80	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
68.0	1.80	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
69.0	2.60	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
70.0	2.60	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
71.0	2.60	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
72.0	2.60	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
73.0	3.40	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
74.0	3.40	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
75.0	3.40	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
76.0	3.40	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
77.0	4.00	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
78.0	4.00	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
79.0	4.00	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
80.0	4.00	1000.	0.	0.	14.173	515.10	1.0000	14.173	515.10
81.0	1.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
82.0	1.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
83.0	1.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
84.0	1.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
85.0	1.80	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
86.0	1.80	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
87.0	1.80	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
88.0	1.80	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
89.0	2.60	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
90.0	2.60	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
91.0	2.60	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
92.0	2.60	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
93.0	3.40	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
94.0	3.40	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
95.0	3.40	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
96.0	3.40	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
97.0	4.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
98.0	4.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
99.0	4.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
100.0	4.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	W0GG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
61.0	64.38	48.28	1848.9	65.06	0.	99.7	0.	0.	0.
62.0	64.38	48.28	1848.9	65.06	0.	99.7	0.	0.	0.
63.0	64.38	48.28	1848.9	65.06	0.	99.7	0.	0.	0.
64.0	64.38	48.28	1848.9	65.06	0.	99.7	0.	0.	0.
65.0	59.18	42.27	1692.6	59.67	0.	95.7	0.	0.	0.
66.0	59.18	42.27	1692.6	59.67	0.	95.7	0.	0.	0.
67.0	59.18	42.27	1692.6	59.67	0.	95.7	0.	0.	0.
68.0	59.18	42.27	1692.6	59.67	0.	95.7	0.	0.	0.
69.0	52.59	35.55	1531.1	52.88	0.	91.7	0.	0.	0.
70.0	52.59	35.55	1531.1	52.88	0.	91.7	0.	0.	0.
71.0	52.59	35.55	1531.1	52.88	0.	91.7	0.	0.	0.
72.0	52.59	35.55	1531.1	52.88	0.	91.7	0.	0.	0.
73.0	45.66	29.13	1377.5	45.78	0.	87.7	0.	0.	0.
74.0	45.66	29.13	1377.5	45.78	0.	87.7	0.	0.	0.
75.0	45.66	29.13	1377.5	45.78	0.	87.7	0.	0.	0.
76.0	45.66	29.13	1377.5	45.78	0.	87.7	0.	0.	0.
77.0	40.37	25.12	1278.5	40.40	0.	84.7	0.	0.	0.
78.0	40.37	25.12	1278.5	40.40	0.	84.7	0.	0.	0.
79.0	40.37	25.12	1278.5	40.40	0.	84.7	0.	0.	0.
80.0	40.37	25.12	1278.5	40.40	0.	84.7	0.	0.	0.
81.0	64.60	48.48	1851.0	65.29	0.	99.7	0.	0.	0.
82.0	64.60	48.48	1851.0	65.29	0.	99.7	0.	0.	0.
83.0	64.60	48.48	1851.0	65.29	0.	99.7	0.	0.	0.
84.0	64.60	48.48	1851.0	65.29	0.	99.7	0.	0.	0.
85.0	59.39	42.44	1694.6	59.87	0.	95.7	0.	0.	0.
86.0	59.39	42.44	1694.6	59.87	0.	95.7	0.	0.	0.
87.0	59.39	42.44	1694.6	59.87	0.	95.7	0.	0.	0.
88.0	59.39	42.44	1694.6	59.87	0.	95.7	0.	0.	0.
89.0	52.77	35.69	1532.9	53.06	0.	91.7	0.	0.	0.
90.0	52.77	35.69	1532.9	53.06	0.	91.7	0.	0.	0.
91.0	52.77	35.69	1532.9	53.06	0.	91.7	0.	0.	0.
92.0	52.77	35.69	1532.9	53.06	0.	91.7	0.	0.	0.
93.0	45.82	29.25	1379.1	45.94	0.	87.8	0.	0.	0.
94.0	45.82	29.25	1379.1	45.94	0.	87.8	0.	0.	0.
95.0	45.82	29.25	1379.1	45.94	0.	87.8	0.	0.	0.
96.0	45.82	29.25	1379.1	45.94	0.	87.8	0.	0.	0.
97.0	40.51	25.20	1279.1	40.55	0.	84.8	0.	0.	0.
98.0	40.51	25.20	1279.1	40.55	0.	84.8	0.	0.	0.
99.0	40.51	25.20	1279.1	40.55	0.	84.8	0.	0.	0.
100.0	40.51	25.20	1279.1	40.55	0.	84.8	0.	0.	0.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
61.0	1.0000	14.173	14.060	648.09	603.	647.	648.09	65.06	555.	1504.
62.0	1.0000	14.173	14.062	644.42	605.	650.	644.42	65.06	555.	1505.
63.0	1.0000	14.173	14.067	631.05	614.	661.	631.05	65.06	556.	1506.
64.0	1.0000	14.173	14.073	613.78	624.	675.	613.78	65.06	557.	1507.
65.0	1.0000	14.173	14.082	585.75	543.	559.	585.75	59.66	548.	1412.
66.0	1.0000	14.173	14.084	582.32	545.	562.	582.32	59.66	548.	1412.
67.0	1.0000	14.173	14.088	569.73	553.	571.	569.73	59.66	549.	1412.
68.0	1.0000	14.173	14.093	553.77	561.	583.	553.77	59.66	550.	1412.
69.0	1.0000	14.173	14.107	505.07	466.	466.	505.07	52.88	539.	1324.
70.0	1.0000	14.173	14.108	501.79	468.	468.	501.79	52.88	540.	1324.
71.0	1.0000	14.173	14.111	490.44	474.	477.	490.44	52.88	540.	1324.
72.0	1.0000	14.173	14.115	475.93	481.	486.	475.93	52.88	541.	1325.
73.0	1.0000	14.173	14.128	417.06	384.	380.	417.06	45.78	532.	1240.
74.0	1.0000	14.173	14.129	414.36	385.	381.	414.36	45.78	532.	1240.
75.0	1.0000	14.173	14.131	404.89	390.	388.	404.89	45.78	532.	1240.
76.0	1.0000	14.173	14.134	393.01	396.	396.	393.01	45.78	533.	1241.
77.0	1.0000	14.173	14.139	363.48	334.	318.	363.48	40.40	528.	1174.
78.0	1.0000	14.173	14.140	361.08	335.	319.	361.08	40.40	528.	1174.
79.0	1.0000	14.173	14.141	352.82	339.	325.	352.82	40.40	528.	1174.
80.0	1.0000	14.173	14.143	342.57	344.	332.	342.57	40.40	528.	1174.
81.0	1.0000	14.230	14.118	648.05	622.	649.	648.05	65.29	556.	1506.
82.0	1.0000	14.230	14.119	644.02	624.	653.	644.02	65.29	556.	1506.
83.0	1.0000	14.230	14.125	629.17	633.	664.	629.17	65.29	557.	1507.
84.0	1.0000	14.230	14.132	610.06	643.	678.	610.06	65.29	558.	1508.
85.0	1.0000	14.230	14.139	587.31	565.	559.	587.31	59.87	549.	1408.
86.0	1.0000	14.230	14.141	583.49	568.	562.	583.49	59.87	549.	1409.
87.0	1.0000	14.230	14.145	569.64	576.	571.	569.64	59.87	550.	1409.
88.0	1.0000	14.230	14.151	551.77	584.	584.	551.77	59.87	551.	1410.
89.0	1.0000	14.230	14.164	503.93	489.	467.	503.93	53.06	540.	1323.
90.0	1.0000	14.230	14.165	500.25	491.	470.	500.25	53.06	541.	1323.
91.0	1.0000	14.230	14.169	487.53	497.	478.	487.53	53.06	541.	1324.
92.0	1.0000	14.230	14.173	471.51	504.	489.	471.51	53.06	542.	1325.
93.0	1.0000	14.230	14.186	414.36	408.	381.	414.36	45.94	533.	1241.
94.0	1.0000	14.230	14.187	411.38	409.	383.	411.38	45.94	533.	1241.
95.0	1.0000	14.230	14.189	400.89	415.	390.	400.89	45.94	533.	1241.
96.0	1.0000	14.230	14.192	387.93	421.	398.	387.93	45.94	534.	1241.
97.0	1.0000	14.230	14.197	359.27	358.	320.	359.27	40.55	528.	1175.
98.0	1.0000	14.230	14.198	356.69	359.	321.	356.69	40.55	529.	1175.
99.0	1.0000	14.230	14.199	347.51	363.	326.	347.51	40.55	529.	1175.
100.0	1.0000	14.230	14.201	336.25	368.	333.	336.25	40.55	529.	1176.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
61.0	99.8	0.	4516.	0.	0.	0.	11899.	910.
62.0	99.5	15.00	4516.	0.	0.	0.	11867.	896.
63.0	98.7	30.00	4516.	0.	0.	0.	11503.	847.
64.0	97.8	40.00	4516.	0.	0.	0.	9522.	789.
65.0	89.7	0.	3610.	0.	0.	0.	9656.	741.
66.0	89.5	15.00	3610.	0.	0.	0.	9627.	730.
67.0	89.0	30.00	3610.	0.	0.	0.	9318.	691.
68.0	88.4	40.00	3610.	0.	0.	0.	7703.	645.
69.0	77.3	0.	2725.	0.	0.	0.	7153.	549.
70.0	77.2	15.00	2725.	0.	0.	0.	7123.	540.
71.0	76.8	30.00	2725.	0.	0.	0.	6880.	512.
72.0	76.3	40.00	2725.	0.	0.	0.	5673.	479.
73.0	64.0	0.	1978.	0.	0.	0.	4880.	373.
74.0	63.9	15.00	1978.	0.	0.	0.	4859.	367.
75.0	63.6	30.00	1978.	0.	0.	0.	4690.	349.
76.0	63.3	40.00	1978.	0.	0.	0.	3866.	327.
77.0	55.9	0.	1534.	0.	0.	0.	3689.	283.
78.0	55.8	15.00	1534.	0.	0.	0.	3673.	279.
79.0	55.6	30.00	1534.	0.	0.	0.	3545.	265.
80.0	55.3	40.00	1534.	0.	0.	0.	2923.	249.
81.0	97.4	0.	4538.	169.	1700.	0.	12213.	971.
82.0	97.1	15.00	4538.	169.	1689.	0.	12172.	955.
83.0	96.4	30.00	4538.	169.	1650.	0.	11766.	901.
84.0	95.6	40.00	4538.	169.	1600.	0.	9701.	836.
85.0	88.0	0.	3627.	156.	1541.	0.	10009.	805.
86.0	87.8	15.00	3627.	156.	1531.	0.	9970.	793.
87.0	87.3	30.00	3627.	156.	1494.	0.	9620.	750.
88.0	86.7	40.00	3627.	156.	1447.	0.	7910.	698.
89.0	75.4	0.	2738.	138.	1322.	0.	7392.	605.
90.0	75.3	15.00	2738.	138.	1312.	0.	7352.	595.
91.0	74.9	30.00	2738.	138.	1279.	0.	7068.	563.
92.0	74.4	40.00	2738.	138.	1237.	0.	5792.	525.
93.0	62.2	0.	1988.	120.	1087.	0.	5003.	422.
94.0	62.1	15.00	1988.	120.	1079.	0.	4975.	416.
95.0	61.9	30.00	1988.	120.	1052.	0.	4774.	395.
96.0	61.6	40.00	1988.	120.	1018.	0.	3902.	369.
97.0	54.1	0.	1540.	106.	942.	0.	3717.	325.
98.0	54.0	15.00	1540.	106.	936.	0.	3694.	320.
99.0	53.8	30.00	1540.	106.	912.	0.	3537.	304.
100.0	53.6	40.00	1540.	106.	882.	0.	2885.	285.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
101.0	1.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
102.0	1.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
103.0	1.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
104.0	1.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
105.0	1.80	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
106.0	1.80	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
107.0	1.80	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
108.0	1.80	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
109.0	2.80	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
110.0	2.80	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
111.0	2.80	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
112.0	2.80	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
113.0	3.40	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
114.0	3.40	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
115.0	3.40	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
116.0	3.40	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
117.0	1.00	1000.	0.22748	150.00	14.173	515.10	1.0000	14.693	520.45
118.0	1.00	1000.	0.22748	150.00	14.173	515.10	1.0000	14.693	520.45
119.0	1.00	1000.	0.22748	150.00	14.173	515.10	1.0000	14.693	520.45
120.0	1.00	1000.	0.22748	150.00	14.173	515.10	1.0000	14.693	520.45

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
101.0	65.27	49.07	1857.3	65.97	0.	99.9	0.	0.	0.
102.0	65.27	49.07	1857.3	65.97	0.	99.9	0.	0.	0.
103.0	65.27	49.07	1857.3	65.97	0.	99.9	0.	0.	0.
104.0	65.27	49.07	1857.3	65.97	0.	99.9	0.	0.	0.
105.0	60.00	42.96	1700.5	60.50	0.	95.9	0.	0.	0.
106.0	60.00	42.96	1700.5	60.50	0.	95.9	0.	0.	0.
107.0	60.00	42.96	1700.5	60.50	0.	95.9	0.	0.	0.
108.0	60.00	42.96	1700.5	60.50	0.	95.9	0.	0.	0.
109.0	53.32	36.13	1538.2	53.62	0.	91.9	0.	0.	0.
110.0	53.32	36.13	1538.2	53.62	0.	91.9	0.	0.	0.
111.0	53.32	36.13	1538.2	53.62	0.	91.9	0.	0.	0.
112.0	53.32	36.13	1538.2	53.62	0.	91.9	0.	0.	0.
113.0	46.29	29.60	1383.7	46.42	0.	87.9	0.	0.	0.
114.0	46.29	29.60	1383.7	46.42	0.	87.9	0.	0.	0.
115.0	46.29	29.60	1383.7	46.42	0.	87.9	0.	0.	0.
116.0	46.29	29.60	1383.7	46.42	0.	87.9	0.	0.	0.
117.0	66.40	50.08	1868.1	67.12	0.	100.2	0.	0.	0.
118.0	66.40	50.08	1868.1	67.12	0.	100.2	0.	0.	0.
119.0	66.40	50.08	1868.1	67.12	0.	100.2	0.	0.	0.
120.0	66.40	50.08	1868.1	67.12	0.	100.2	0.	0.	0.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
101.0	1.0000	14.402	14.290	651.20	657.	657.	651.20	65.97	559.	1508.
102.0	1.0000	14.402	14.292	646.69	659.	660.	646.69	65.97	559.	1509.
103.0	1.0000	14.402	14.298	630.55	668.	672.	630.55	65.97	560.	1510.
104.0	1.0000	14.402	14.305	609.97	677.	686.	609.97	65.97	561.	1511.
105.0	1.0000	14.402	14.311	592.73	601.	565.	592.73	60.50	552.	1408.
106.0	1.0000	14.402	14.312	588.65	603.	568.	588.65	60.50	552.	1408.
107.0	1.0000	14.402	14.317	573.81	611.	577.	573.81	60.50	553.	1408.
108.0	1.0000	14.402	14.323	554.33	618.	589.	554.33	60.50	554.	1409.
109.0	1.0000	14.402	14.336	508.93	520.	472.	508.93	53.62	543.	1323.
110.0	1.0000	14.402	14.337	505.02	522.	475.	505.02	53.62	543.	1324.
111.0	1.0000	14.402	14.341	491.67	527.	483.	491.67	53.62	544.	1324.
112.0	1.0000	14.402	14.345	474.58	532.	493.	474.58	53.62	544.	1325.
113.0	1.0000	14.402	14.358	419.44	430.	385.	419.44	46.42	535.	1242.
114.0	1.0000	14.402	14.359	416.49	431.	387.	416.49	46.42	535.	1242.
115.0	1.0000	14.402	14.361	406.41	436.	394.	406.41	46.42	535.	1242.
116.0	1.0000	14.402	14.363	393.86	442.	402.	393.86	46.42	536.	1243.
117.0	1.0000	14.693	14.580	658.76	680.	670.	658.76	67.12	563.	1513.
118.0	1.0000	14.693	14.582	653.81	682.	673.	653.81	67.12	563.	1513.
119.0	1.0000	14.693	14.588	636.49	689.	685.	636.49	67.12	564.	1514.
120.0	1.0000	14.693	14.595	616.30	698.	699.	616.30	67.12	565.	1515.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
101.0	96.8	0.	4604.	342.	3417.	0.	12278.	1086.
102.0	96.5	15.00	4604.	342.	3393.	0.	12211.	1066.
103.0	95.9	30.00	4604.	342.	3308.	0.	11717.	1001.
104.0	95.3	40.00	4604.	342.	3200.	0.	9550.	924.
105.0	88.3	0.	3680.	315.	3110.	0.	9951.	911.
106.0	88.2	15.00	3680.	315.	3088.	0.	9892.	896.
107.0	87.7	30.00	3680.	315.	3011.	0.	9467.	843.
108.0	87.2	40.00	3680.	315.	2908.	0.	7672.	779.
109.0	76.3	0.	2777.	280.	2670.	0.	7044.	684.
110.0	76.2	15.00	2777.	280.	2650.	0.	6985.	672.
111.0	75.8	30.00	2777.	280.	2580.	0.	6637.	632.
112.0	75.4	40.00	2777.	280.	2490.	0.	5336.	585.
113.0	63.3	0.	2016.	243.	2201.	0.	4466.	468.
114.0	63.2	15.00	2016.	243.	2185.	0.	4445.	461.
115.0	62.9	30.00	2016.	243.	2132.	0.	4283.	436.
116.0	62.6	40.00	2016.	243.	2066.	0.	3510.	407.
117.0	98.5	0.	4716.	522.	5184.	0.	11403.	1163.
118.0	98.3	15.00	4716.	522.	5145.	0.	11299.	1140.
119.0	97.5	30.00	4716.	522.	5009.	0.	10702.	1062.
120.0	96.6	40.00	4716.	522.	4850.	0.	8728.	976.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
121.0	1.00	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
122.0	1.00	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
123.0	1.00	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
124.0	1.00	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
125.0	1.80	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
126.0	1.80	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
127.0	1.80	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
128.0	1.80	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
129.0	2.60	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
130.0	2.60	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
131.0	2.60	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
132.0	2.60	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
133.0	3.40	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
134.0	3.40	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
135.0	3.40	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
136.0	3.40	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
137.0	4.00	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
138.0	4.00	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
139.0	4.00	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
140.0	4.00	2000.	0.	0.	13.664	511.54	1.0000	13.664	511.54
141.0	1.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
142.0	1.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
143.0	1.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
144.0	1.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
145.0	1.80	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
146.0	1.80	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
147.0	1.80	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
148.0	1.80	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
149.0	2.60	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
150.0	2.60	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
151.0	2.60	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
152.0	2.60	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
153.0	3.40	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
154.0	3.40	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
155.0	3.40	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
156.0	3.40	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
157.0	4.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
158.0	4.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
159.0	4.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
160.0	4.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
121.0	62.29	46.54	1836.2	62.94	0.	99.3	0.	0.	0.
122.0	62.29	46.54	1836.2	62.94	0.	99.3	0.	0.	0.
123.0	62.29	46.54	1836.2	62.94	0.	99.3	0.	0.	0.
124.0	62.29	46.54	1836.2	62.94	0.	99.3	0.	0.	0.
125.0	57.25	40.74	1681.0	57.71	0.	95.3	0.	0.	0.
126.0	57.25	40.74	1681.0	57.71	0.	95.3	0.	0.	0.
127.0	57.25	40.74	1681.0	57.71	0.	95.3	0.	0.	0.
128.0	57.25	40.74	1681.0	57.71	0.	95.3	0.	0.	0.
129.0	50.88	34.26	1520.5	51.15	0.	91.4	0.	0.	0.
130.0	50.88	34.26	1520.5	51.15	0.	91.4	0.	0.	0.
131.0	50.88	34.26	1520.5	51.15	0.	91.4	0.	0.	0.
132.0	50.88	34.26	1520.5	51.15	0.	91.4	0.	0.	0.
133.0	44.17	28.08	1368.0	44.28	0.	87.4	0.	0.	0.
134.0	44.17	28.08	1368.0	44.28	0.	87.4	0.	0.	0.
135.0	44.17	28.08	1368.0	44.28	0.	87.4	0.	0.	0.
136.0	44.17	28.08	1368.0	44.28	0.	87.4	0.	0.	0.
137.0	39.05	24.21	1269.8	39.08	0.	84.4	0.	0.	0.
138.0	39.05	24.21	1269.8	39.08	0.	84.4	0.	0.	0.
139.0	39.05	24.21	1269.8	39.08	0.	84.4	0.	0.	0.
140.0	39.05	24.21	1269.8	39.08	0.	84.4	0.	0.	0.
141.0	62.50	46.73	1838.3	63.16	0.	99.4	0.	0.	0.
142.0	62.50	46.73	1838.3	63.16	0.	99.4	0.	0.	0.
143.0	62.50	46.73	1838.3	63.16	0.	99.4	0.	0.	0.
144.0	62.50	46.73	1838.3	63.16	0.	99.4	0.	0.	0.
145.0	57.45	40.91	1682.9	57.92	0.	95.4	0.	0.	0.
146.0	57.45	40.91	1682.9	57.92	0.	95.4	0.	0.	0.
147.0	57.45	40.91	1682.9	57.92	0.	95.4	0.	0.	0.
148.0	57.45	40.91	1682.9	57.92	0.	95.4	0.	0.	0.
149.0	51.06	34.40	1522.3	51.33	0.	91.4	0.	0.	0.
150.0	51.06	34.40	1522.3	51.33	0.	91.4	0.	0.	0.
151.0	51.06	34.40	1522.3	51.33	0.	91.4	0.	0.	0.
152.0	51.06	34.40	1522.3	51.33	0.	91.4	0.	0.	0.
153.0	44.32	28.19	1369.6	44.44	0.	87.4	0.	0.	0.
154.0	44.32	28.19	1369.6	44.44	0.	87.4	0.	0.	0.
155.0	44.32	28.19	1369.6	44.44	0.	87.4	0.	0.	0.
156.0	44.32	28.19	1369.6	44.44	0.	87.4	0.	0.	0.
157.0	39.19	24.29	1270.4	39.22	0.	84.5	0.	0.	0.
158.0	39.19	24.29	1270.4	39.22	0.	84.5	0.	0.	0.
159.0	39.19	24.29	1270.4	39.22	0.	84.5	0.	0.	0.
160.0	39.19	24.29	1270.4	39.22	0.	84.5	0.	0.	0.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	ETARLU	P2LU	P22LU	W0LU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
121.0	1.0000	13.664	13.556	626.89	600.	644.	626.89	62.94	551.	1494.
122.0	1.0000	13.664	13.557	623.32	603.	647.	623.32	62.94	552.	1494.
123.0	1.0000	13.664	13.562	610.45	612.	659.	610.45	62.94	552.	1495.
124.0	1.0000	13.664	13.568	593.68	622.	672.	593.68	62.94	553.	1496.
125.0	1.0000	13.664	13.578	566.52	541.	557.	566.52	57.71	544.	1402.
126.0	1.0000	13.664	13.579	563.22	543.	560.	563.22	57.71	544.	1402.
127.0	1.0000	13.664	13.583	551.04	551.	569.	551.04	57.71	545.	1402.
128.0	1.0000	13.664	13.587	535.60	559.	580.	535.60	57.71	546.	1402.
129.0	1.0000	13.664	13.601	488.44	464.	464.	488.44	51.15	536.	1315.
130.0	1.0000	13.664	13.602	485.27	466.	466.	485.27	51.15	536.	1315.
131.0	1.0000	13.664	13.605	474.29	472.	475.	474.29	51.15	536.	1315.
132.0	1.0000	13.664	13.609	460.24	479.	485.	460.24	51.15	537.	1316.
133.0	1.0000	13.664	13.622	403.37	382.	378.	403.37	44.28	528.	1231.
134.0	1.0000	13.664	13.622	400.76	384.	379.	400.76	44.28	528.	1231.
135.0	1.0000	13.664	13.624	391.60	389.	386.	391.60	44.28	528.	1232.
136.0	1.0000	13.664	13.627	380.11	394.	395.	380.11	44.28	529.	1232.
137.0	1.0000	13.664	13.632	351.56	332.	316.	351.56	39.08	524.	1166.
138.0	1.0000	13.664	13.633	349.24	334.	318.	349.24	39.08	524.	1166.
139.0	1.0000	13.664	13.634	341.25	338.	324.	341.25	39.08	524.	1166.
140.0	1.0000	13.664	13.636	331.34	343.	330.	331.34	39.08	525.	1166.
141.0	1.0000	13.720	13.612	626.86	619.	647.	626.86	63.16	552.	1495.
142.0	1.0000	13.720	13.613	622.95	622.	650.	622.95	63.16	552.	1495.
143.0	1.0000	13.720	13.619	608.59	631.	662.	608.59	63.16	553.	1496.
144.0	1.0000	13.720	13.625	590.08	641.	675.	590.08	63.16	554.	1497.
145.0	1.0000	13.720	13.633	568.01	563.	557.	568.01	57.92	545.	1399.
146.0	1.0000	13.720	13.634	564.31	566.	560.	564.31	57.92	545.	1399.
147.0	1.0000	13.720	13.638	550.90	574.	569.	550.90	57.92	546.	1399.
148.0	1.0000	13.720	13.644	533.61	582.	581.	533.61	57.92	547.	1400.
149.0	1.0000	13.720	13.657	487.30	487.	466.	487.30	51.33	537.	1314.
150.0	1.0000	13.720	13.658	483.74	489.	468.	483.74	51.33	537.	1314.
151.0	1.0000	13.720	13.661	471.44	495.	477.	471.44	51.33	537.	1315.
152.0	1.0000	13.720	13.665	455.96	502.	487.	455.96	51.33	538.	1316.
153.0	1.0000	13.720	13.678	400.77	407.	379.	400.77	44.44	529.	1232.
154.0	1.0000	13.720	13.679	397.89	408.	381.	397.89	44.44	529.	1232.
155.0	1.0000	13.720	13.681	387.73	413.	388.	387.73	44.44	529.	1232.
156.0	1.0000	13.720	13.683	375.21	419.	396.	375.21	44.44	530.	1233.
157.0	1.0000	13.720	13.689	347.49	356.	318.	347.49	39.22	525.	1167.
158.0	1.0000	13.720	13.689	344.98	358.	320.	344.98	39.22	525.	1167.
159.0	1.0000	13.720	13.691	336.12	362.	325.	336.12	39.22	525.	1167.
160.0	1.0000	13.720	13.693	325.22	367.	332.	325.22	39.22	526.	1168.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
121.0	99.4	0.	4333.	0.	0.	0.	11467.	877.
122.0	99.1	15.00	4333.	0.	0.	0.	11436.	864.
123.0	98.3	30.00	4333.	0.	0.	0.	11085.	817.
124.0	97.4	40.00	4333.	0.	0.	0.	9176.	760.
125.0	89.3	0.	3464.	0.	0.	0.	9304.	714.
126.0	89.2	15.00	3464.	0.	0.	0.	9277.	703.
127.0	88.6	30.00	3464.	0.	0.	0.	8979.	666.
128.0	88.0	40.00	3464.	0.	0.	0.	7422.	622.
129.0	77.0	0.	2614.	0.	0.	0.	6891.	529.
130.0	76.9	15.00	2614.	0.	0.	0.	6862.	521.
131.0	76.5	30.00	2614.	0.	0.	0.	6628.	494.
132.0	76.0	40.00	2614.	0.	0.	0.	5465.	461.
133.0	63.7	0.	1899.	0.	0.	0.	4702.	359.
134.0	63.7	15.00	1899.	0.	0.	0.	4682.	354.
135.0	63.4	30.00	1899.	0.	0.	0.	4519.	336.
136.0	63.1	40.00	1899.	0.	0.	0.	3725.	315.
137.0	55.7	0.	1473.	0.	0.	0.	3555.	272.
138.0	55.6	15.00	1473.	0.	0.	0.	3540.	268.
139.0	55.4	30.00	1473.	0.	0.	0.	3416.	255.
140.0	55.1	40.00	1473.	0.	0.	0.	2816.	240.
141.0	97.0	0.	4354.	164.	1644.	0.	11772.	936.
142.0	96.8	15.00	4354.	164.	1634.	0.	11733.	921.
143.0	96.0	30.00	4354.	164.	1596.	0.	11341.	868.
144.0	95.3	40.00	4354.	164.	1548.	0.	9349.	806.
145.0	87.6	0.	3481.	151.	1490.	0.	9644.	776.
146.0	87.5	15.00	3481.	151.	1480.	0.	9606.	764.
147.0	86.9	30.00	3481.	151.	1445.	0.	9269.	722.
148.0	86.4	40.00	3481.	151.	1400.	0.	7621.	672.
149.0	75.1	0.	2627.	134.	1278.	0.	7120.	583.
150.0	75.0	15.00	2627.	134.	1269.	0.	7082.	574.
151.0	74.6	30.00	2627.	134.	1237.	0.	6809.	543.
152.0	74.1	40.00	2627.	134.	1196.	0.	5579.	506.
153.0	61.9	0.	1908.	116.	1051.	0.	4820.	407.
154.0	61.9	15.00	1908.	116.	1044.	0.	4793.	401.
155.0	61.6	30.00	1908.	116.	1017.	0.	4599.	380.
156.0	61.4	40.00	1908.	116.	984.	0.	3759.	356.
157.0	53.9	0.	1478.	103.	912.	0.	3581.	313.
158.0	53.8	15.00	1478.	103.	905.	0.	3559.	309.
159.0	53.6	30.00	1478.	103.	882.	0.	3407.	293.
160.0	53.4	40.00	1478.	103.	853.	0.	2778.	275.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
161.0	1.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
162.0	1.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
163.0	1.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
164.0	1.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
165.0	1.80	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
166.0	1.80	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
167.0	1.80	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
168.0	1.80	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
169.0	2.60	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
170.0	2.60	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
171.0	2.60	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
172.0	2.60	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
173.0	3.40	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
174.0	3.40	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
175.0	3.40	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
176.0	3.40	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
177.0	1.00	2000.	0.22827	150.00	13.664	511.54	1.0000	14.169	516.88
178.0	1.00	2000.	0.22827	150.00	13.664	511.54	1.0000	14.169	516.88
179.0	1.00	2000.	0.22827	150.00	13.664	511.54	1.0000	14.169	516.88
180.0	1.00	2000.	0.22827	150.00	13.664	511.54	1.0000	14.169	516.88

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
161.0	63.16	47.31	1844.7	63.82	0.	99.5	0.	0.	0.
162.0	63.16	47.31	1844.7	63.82	0.	99.5	0.	0.	0.
163.0	63.16	47.31	1844.7	63.82	0.	99.5	0.	0.	0.
164.0	63.16	47.31	1844.7	63.82	0.	99.5	0.	0.	0.
165.0	58.06	41.41	1688.7	58.53	0.	95.6	0.	0.	0.
166.0	58.06	41.41	1688.7	58.53	0.	95.6	0.	0.	0.
167.0	58.06	41.41	1688.7	58.53	0.	95.6	0.	0.	0.
168.0	58.06	41.41	1688.7	58.53	0.	95.6	0.	0.	0.
169.0	51.59	34.83	1527.6	51.87	0.	91.6	0.	0.	0.
170.0	51.59	34.83	1527.6	51.87	0.	91.6	0.	0.	0.
171.0	51.59	34.83	1527.6	51.87	0.	91.6	0.	0.	0.
172.0	51.59	34.83	1527.6	51.87	0.	91.6	0.	0.	0.
173.0	44.79	28.54	1374.2	44.91	0.	87.6	0.	0.	0.
174.0	44.79	28.54	1374.2	44.91	0.	87.6	0.	0.	0.
175.0	44.79	28.54	1374.2	44.91	0.	87.6	0.	0.	0.
176.0	44.79	28.54	1374.2	44.91	0.	87.6	0.	0.	0.
177.0	64.25	48.28	1855.3	64.94	0.	99.8	0.	0.	0.
178.0	64.25	48.28	1855.3	64.94	0.	99.8	0.	0.	0.
179.0	64.25	48.28	1855.3	64.94	0.	99.8	0.	0.	0.
180.0	64.25	48.28	1855.3	64.94	0.	99.8	0.	0.	0.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
161.0	1.0000	13.887	13.779	629.95	654.	655.	629.95	63.82	555.	1498.
162.0	1.0000	13.887	13.781	625.58	657.	658.	625.58	63.82	555.	1498.
163.0	1.0000	13.887	13.787	609.97	665.	669.	609.97	63.82	556.	1499.
164.0	1.0000	13.887	13.794	590.08	675.	683.	590.08	63.82	557.	1500.
165.0	1.0000	13.887	13.799	573.33	599.	562.	573.33	58.53	548.	1398.
166.0	1.0000	13.887	13.801	569.33	601.	565.	569.33	58.53	548.	1398.
167.0	1.0000	13.887	13.805	554.87	609.	575.	554.87	58.53	549.	1398.
168.0	1.0000	13.887	13.811	536.07	616.	587.	536.07	58.53	550.	1399.
169.0	1.0000	13.887	13.824	491.91	518.	471.	491.91	51.87	539.	1314.
170.0	1.0000	13.887	13.825	488.56	520.	473.	488.56	51.87	539.	1314.
171.0	1.0000	13.887	13.828	475.44	525.	482.	475.44	51.87	540.	1315.
172.0	1.0000	13.887	13.832	458.96	530.	492.	458.96	51.87	541.	1316.
173.0	1.0000	13.887	13.845	405.85	428.	383.	405.85	44.91	531.	1233.
174.0	1.0000	13.887	13.845	403.01	430.	385.	403.01	44.91	531.	1233.
175.0	1.0000	13.887	13.847	393.26	435.	392.	393.26	44.91	532.	1234.
176.0	1.0000	13.887	13.850	381.11	440.	401.	381.11	44.91	532.	1234.
177.0	1.0000	14.169	14.060	637.18	678.	667.	637.18	64.94	559.	1502.
178.0	1.0000	14.169	14.062	632.38	680.	670.	632.38	64.94	559.	1502.
179.0	1.0000	14.169	14.068	615.65	687.	682.	615.65	64.94	560.	1503.
180.0	1.0000	14.169	14.075	596.39	696.	697.	596.39	64.94	561.	1504.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A VTOL ESTIMATE PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
161.0	96.4	0.	4418.	331.	3305.	0.	11830.	1047.
162.0	96.2	15.00	4418.	331.	3282.	0.	11765.	1028.
163.0	95.6	30.00	4418.	331.	3200.	0.	11289.	965.
164.0	95.0	40.00	4418.	331.	3096.	0.	9200.	891.
165.0	88.0	0.	3531.	305.	3008.	0.	9583.	879.
166.0	87.8	15.00	3531.	305.	2987.	0.	9524.	864.
167.0	87.4	30.00	3531.	305.	2911.	0.	9115.	813.
168.0	86.9	40.00	3531.	305.	2813.	0.	7383.	751.
169.0	76.0	0.	2665.	271.	2581.	0.	6776.	658.
170.0	75.9	15.00	2665.	271.	2563.	0.	6722.	648.
171.0	75.6	30.00	2665.	271.	2494.	0.	6386.	609.
172.0	75.2	40.00	2665.	271.	2408.	0.	5134.	563.
173.0	63.1	0.	1935.	235.	2129.	0.	4306.	451.
174.0	63.0	15.00	1935.	235.	2114.	0.	4286.	444.
175.0	62.7	30.00	1935.	235.	2063.	0.	4130.	420.
176.0	62.3	40.00	1935.	235.	2000.	0.	3385.	392.
177.0	98.2	0.	4526.	506.	5014.	0.	10971.	1121.
178.0	97.9	15.00	4526.	506.	4977.	0.	10869.	1098.
179.0	97.1	30.00	4526.	506.	4845.	0.	10295.	1023.
180.0	96.3	40.00	4526.	506.	4693.	0.	8417.	941.

APPENDIX B

REMOTE LIFT FAN SYSTEM A

(Turbojet/1.25 Pressure Ratio Lift Units)

Estimated Internal Cruise Performance

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P23G	T2
1.0	1.00	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
2.0	1.00	0. 0.10000	66.17	14.696	518.67	1.0000	14.799	519.71	
3.0	1.00	0. 0.20000	132.33	14.696	518.67	1.0000	15.112	522.83	
4.0	1.80	0. 0.20000	132.33	14.696	518.67	1.0000	15.112	522.83	
5.0	2.60	0. 0.20000	132.33	14.696	518.67	1.0000	15.112	522.83	
6.0	3.40	0. 0.20000	132.33	14.696	518.67	1.0000	15.112	522.83	
7.0	4.00	0. 0.20000	132.33	14.696	518.67	1.0000	15.112	522.83	
8.0	1.00	0. 0.30000	198.50	14.696	518.67	1.0000	15.643	528.03	
9.0	1.00	0. 0.40000	264.66	14.696	518.67	1.0000	16.410	535.31	
10.0	1.80	0. 0.40000	264.66	14.696	518.67	1.0000	16.410	535.31	
11.0	2.60	0. 0.40000	264.66	14.696	518.67	1.0000	16.410	535.31	
12.0	3.40	0. 0.40000	264.66	14.696	518.67	1.0000	16.410	535.31	
13.0	4.00	0. 0.40000	264.66	14.696	518.67	1.0000	16.410	535.31	
14.0	1.00	0. 0.50000	330.83	14.696	518.67	1.0000	17.434	544.67	
15.0	1.00	0. 0.60000	397.00	14.696	518.67	1.0000	18.748	556.11	
16.0	1.80	0. 0.60000	397.00	14.696	518.67	1.0000	18.748	556.11	
17.0	2.60	0. 0.60000	397.00	14.696	518.67	1.0000	18.748	556.11	
18.0	3.40	0. 0.60000	397.00	14.696	518.67	1.0000	18.748	556.11	
19.0	4.00	0. 0.60000	397.00	14.696	518.67	1.0000	18.748	556.11	
20.0	1.00	5000. 0.	0.	12.228	500.84	1.0000	12.228	500.84	
21.0	1.00	5000. 0.10000	65.03	12.228	500.84	1.0000	12.313	501.84	
22.0	1.00	5000. 0.20000	130.05	12.228	500.84	1.0000	12.573	504.86	
23.0	1.00	5000. 0.30000	195.08	12.228	500.84	1.0000	13.015	509.88	
24.0	1.00	5000. 0.40000	260.10	12.228	500.84	1.0000	13.652	516.92	
25.0	1.00	5000. 0.50000	325.13	12.228	500.84	1.0000	14.504	525.96	
26.0	1.00	5000. 0.60000	390.15	12.228	500.84	1.0000	15.596	537.01	

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
1.0	66.53	50.03	1860.2	67.25	0.	100.0	0.	0.	0.
2.0	66.93	50.44	1865.6	67.65	0.	100.1	0.	0.	0.
3.0	68.14	51.49	1875.9	68.89	0.	100.4	0.	0.	0.
4.0	62.64	45.12	1718.8	63.17	0.	96.4	0.	0.	0.
5.0	55.66	37.94	1554.5	55.99	0.	92.4	0.	0.	0.
6.0	48.33	31.08	1398.1	48.47	0.	88.4	0.	0.	0.
7.0	42.75	26.64	1292.2	42.79	0.	85.3	0.	0.	0.
8.0	70.18	53.34	1895.6	70.97	0.	100.9	0.	0.	0.
9.0	73.11	55.98	1921.3	73.95	0.	101.6	0.	0.	0.
10.0	67.22	49.02	1759.5	67.82	0.	97.5	0.	0.	0.
11.0	59.73	41.25	1592.0	60.10	0.	93.5	0.	0.	0.
12.0	51.82	33.78	1431.6	52.04	0.	89.4	0.	0.	0.
13.0	45.91	28.58	1311.5	45.97	0.	86.4	0.	0.	0.
14.0	77.00	59.47	1953.2	77.91	0.	102.5	0.	0.	0.
15.0	81.93	63.94	1992.1	82.94	0.	103.6	0.	0.	0.
16.0	75.34	56.11	1828.6	76.07	0.	99.4	0.	0.	0.
17.0	66.99	47.19	1654.4	67.41	0.	95.3	0.	0.	0.
18.0	58.12	38.65	1487.5	58.36	0.	91.1	0.	0.	0.
19.0	51.46	32.57	1359.0	51.56	0.	88.0	0.	0.	0.
20.0	56.33	41.60	1797.7	56.89	0.	98.3	0.	0.	0.
21.0	56.66	41.90	1801.4	57.23	0.	98.4	0.	0.	0.
22.0	57.69	42.79	1812.2	58.28	0.	98.7	0.	0.	0.
23.0	59.42	44.32	1830.2	60.04	0.	99.2	0.	0.	0.
24.0	61.91	46.51	1855.3	62.58	0.	99.8	0.	0.	0.
25.0	65.21	49.46	1888.7	65.94	0.	100.7	0.	0.	0.
26.0	69.39	53.21	1927.0	70.19	0.	101.8	0.	0.	0.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	W0LU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
1.0	1.0000	14.696	14.580	668.51	591.	638.	668.51	67.25	559.	1514.
2.0	1.0000	14.759	14.680	678.19	600.	643.	678.19	67.65	560.	1517.
3.0	1.0000	15.112	14.993	683.11	636.	752.	683.11	68.89	564.	1528.
4.0	1.0000	15.112	15.014	623.59	579.	651.	623.59	63.17	556.	1432.
5.0	1.0000	15.112	15.038	547.82	507.	544.	547.82	55.99	547.	1341.
6.0	1.0000	15.112	15.059	466.27	430.	443.	466.27	48.47	539.	1255.
7.0	1.0000	15.112	15.070	415.95	382.	372.	415.95	42.79	535.	1184.
8.0	1.0000	15.643	15.518	708.36	686.	852.	708.36	70.97	569.	1543.
9.0	1.0000	16.410	16.277	742.62	749.	979.	742.62	73.95	577.	1564.
10.0	1.0000	16.410	16.296	693.05	696.	856.	693.05	67.82	569.	1461.
11.0	1.0000	16.410	16.316	632.97	632.	726.	632.97	60.10	560.	1361.
12.0	1.0000	16.410	16.335	568.37	564.	603.	568.37	52.04	551.	1272.
13.0	1.0000	16.410	16.346	526.03	518.	516.	526.03	45.97	546.	1196.
14.0	1.0000	17.434	17.293	782.48	826.	1134.	782.48	77.91	587.	1591.
15.0	1.0000	18.748	18.601	822.91	914.	1319.	822.91	82.94	600.	1626.
16.0	1.0000	18.748	18.615	784.89	865.	1180.	784.89	76.07	591.	1517.
17.0	1.0000	18.748	18.631	738.86	806.	1028.	738.86	67.41	582.	1408.
18.0	1.0000	18.748	18.647	691.30	747.	885.	691.30	58.36	573.	1311.
19.0	1.0000	18.748	18.656	659.88	706.	782.	659.88	51.56	567.	1232.
20.0	1.0000	12.228	12.131	565.54	581.	626.	565.54	56.89	540.	1461.
21.0	1.0000	12.313	12.215	573.49	589.	630.	573.49	57.24	541.	1463.
22.0	1.0000	12.573	12.475	577.78	625.	738.	577.78	58.28	544.	1474.
23.0	1.0000	13.015	12.911	599.13	673.	835.	599.13	60.04	550.	1488.
24.0	1.0000	13.652	13.542	628.24	736.	960.	628.24	62.58	557.	1508.
25.0	1.0000	14.504	14.386	662.37	811.	1114.	662.37	65.94	567.	1536.
26.0	1.0000	15.596	15.473	696.81	898.	1296.	696.81	70.19	579.	1571.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FNG
1.0	100.0	0.	4700.	0.	0.	0.	13352.	12952.
2.0	100.6	0.	4746.	232.	2354.	0.	13726.	10917.
3.0	100.3	0.	4864.	473.	4743.	0.	14822.	9511.
4.0	90.7	0.	3892.	435.	4329.	0.	12252.	7413.
5.0	78.7	0.	2936.	387.	3803.	0.	9384.	5142.
6.0	65.8	0.	2130.	336.	3237.	0.	6759.	3154.
7.0	57.5	0.	1640.	297.	2888.	0.	5329.	2123.
8.0	101.2	0.	5074.	731.	7377.	0.	16635.	8527.
9.0	102.3	0.	5372.	1015.	10312.	0.	19157.	7831.
10.0	93.5	0.	4294.	934.	9624.	0.	16460.	5902.
11.0	82.7	0.	3241.	830.	8789.	0.	13508.	3889.
12.0	70.8	0.	2350.	720.	7892.	0.	10713.	2101.
13.0	62.4	0.	1781.	636.	7304.	0.	9026.	1086.
14.0	103.2	0.	5770.	1337.	13582.	0.	22381.	7462.
15.0	103.6	0.	6287.	1707.	17140.	0.	26248.	7401.
16.0	96.0	0.	5042.	1569.	16348.	0.	23416.	5499.
17.0	86.5	0.	3802.	1395.	15389.	0.	20261.	3476.
18.0	76.2	0.	2754.	1211.	14399.	0.	17294.	1684.
19.0	68.6	0.	2076.	1072.	13744.	0.	15414.	598.
20.0	98.2	0.	3820.	0.	0.	0.	11090.	10757.
21.0	98.7	0.	3853.	143.	1957.	0.	11390.	9105.
22.0	98.5	0.	3951.	394.	3942.	0.	12306.	7890.
23.0	99.3	0.	4118.	608.	6132.	0.	13811.	7071.
24.0	100.4	0.	4361.	845.	8573.	0.	15910.	6492.
25.0	101.4	0.	4694.	1113.	11299.	0.	18611.	6199.
26.0	101.8	0.	5117.	1421.	14263.	0.	21839.	6154.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
27.0	1.00	10000.	0.20000	127.72	10.106	483.01	1.0000	10.393	486.89
28.0	1.80	10000.	0.20000	127.72	10.106	483.01	1.0000	10.393	486.89
29.0	2.60	10000.	0.20000	127.72	10.106	483.01	1.0000	10.393	486.89
30.0	3.40	10000.	0.20000	127.72	10.106	483.01	1.0000	10.393	486.89
31.0	4.00	10000.	0.20000	127.72	10.106	483.01	1.0000	10.393	486.89
32.0	1.00	10000.	0.30000	191.58	10.106	483.01	1.0000	10.758	491.74
33.0	1.00	10000.	0.40000	255.44	10.106	483.01	1.0000	11.285	498.53
34.0	1.80	10000.	0.40000	255.44	10.106	483.01	1.0000	11.285	498.53
35.0	2.60	10000.	0.40000	255.44	10.106	483.01	1.0000	11.285	498.53
36.0	3.40	10000.	0.40000	255.44	10.106	483.01	1.0000	11.285	498.53
37.0	4.00	10000.	0.40000	255.44	10.106	483.01	1.0000	11.285	498.53
38.0	1.00	10000.	0.50000	319.30	10.106	483.01	1.0000	11.988	507.25
39.0	1.00	10000.	0.60000	383.16	10.106	483.01	1.0000	12.890	517.91
40.0	1.80	10000.	0.60000	383.16	10.106	483.01	1.0000	12.890	517.91
41.0	2.60	10000.	0.60000	383.16	10.106	483.01	1.0000	12.890	517.91
42.0	3.40	10000.	0.60000	383.16	10.106	483.01	1.0000	12.890	517.91
43.0	4.00	10000.	0.60000	383.16	10.106	483.01	1.0000	12.890	517.91
44.0	1.00	10000.	0.70000	447.02	10.106	483.01	1.0000	14.018	530.51
45.0	1.00	20000.	0.40000	245.84	6.753	447.35	1.0000	7.542	461.72
46.0	1.80	20000.	0.40000	245.84	6.753	447.35	1.0000	7.542	461.72
47.0	2.60	20000.	0.40000	245.84	6.753	447.35	1.0000	7.542	461.72
48.0	3.40	20000.	0.40000	245.84	6.753	447.35	1.0000	7.542	461.72
49.0	4.00	20000.	0.40000	245.84	6.753	447.35	1.0000	7.542	461.72
50.0	1.00	20000.	0.50000	307.30	6.753	447.35	1.0000	8.014	469.81
51.0	1.00	20000.	0.60000	368.76	6.753	447.35	1.0000	8.618	479.69
52.0	1.80	20000.	0.60000	368.76	6.753	447.35	1.0000	8.618	479.69
53.0	2.60	20000.	0.60000	368.76	6.753	447.35	1.0000	8.618	479.69
54.0	3.40	20000.	0.60000	368.76	6.753	447.35	1.0000	8.618	479.69
55.0	4.00	20000.	0.60000	368.76	6.753	447.35	1.0000	8.618	479.69
56.0	1.00	20000.	0.70000	430.22	6.753	447.35	1.0000	9.372	491.37
57.0	1.00	20000.	0.80000	491.68	6.753	447.35	1.0000	10.299	504.84
58.0	1.80	20000.	0.80000	491.68	6.753	447.35	1.0000	10.299	504.84
59.0	2.60	20000.	0.80000	491.68	6.753	447.35	1.0000	10.299	504.84
60.0	3.40	20000.	0.80000	491.68	6.753	447.35	1.0000	10.299	504.84
61.0	4.00	20000.	0.80000	491.68	6.753	447.35	1.0000	10.299	504.84

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	W0GG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
27.0	48.54	35.30	1747.8	49.00	0.	96.9	0.	0.	0.
28.0	44.61	30.90	1599.7	44.92	0.	93.0	0.	0.	0.
29.0	39.63	25.98	1447.3	39.80	0.	89.1	0.	0.	0.
30.0	34.40	21.29	1302.2	34.45	0.	85.3	0.	0.	0.
31.0	30.42	18.28	1204.7	30.42	0.	82.4	0.	0.	0.
32.0	50.01	36.56	1765.2	50.49	0.	97.4	0.	0.	0.
33.0	52.10	38.39	1789.7	52.62	0.	98.0	0.	0.	0.
34.0	47.88	33.60	1638.2	48.24	0.	94.1	0.	0.	0.
35.0	42.54	28.24	1481.5	42.75	0.	90.2	0.	0.	0.
36.0	36.93	23.17	1334.2	37.00	0.	86.3	0.	0.	0.
37.0	32.68	19.60	1221.7	32.69	0.	83.3	0.	0.	0.
38.0	54.88	40.82	1821.1	55.44	0.	98.9	0.	0.	0.
39.0	58.40	43.92	1859.1	59.03	0.	99.9	0.	0.	0.
40.0	53.68	38.47	1702.5	54.12	0.	95.9	0.	0.	0.
41.0	47.69	32.36	1540.6	47.96	0.	91.9	0.	0.	0.
42.0	41.40	26.49	1385.3	41.52	0.	87.9	0.	0.	0.
43.0	36.66	22.33	1265.5	36.68	0.	84.9	0.	0.	0.
44.0	62.75	47.86	1905.8	63.46	0.	101.1	0.	0.	0.
45.0	36.13	25.54	1658.9	36.43	0.	94.4	0.	0.	0.
46.0	33.19	22.35	1517.9	33.38	0.	90.6	0.	0.	0.
47.0	29.46	18.78	1374.0	29.56	0.	86.8	0.	0.	0.
48.0	25.56	15.38	1235.4	25.58	0.	83.0	0.	0.	0.
49.0	22.61	13.04	1132.7	22.60	0.	80.2	0.	0.	0.
50.0	38.07	27.16	1687.6	38.40	0.	95.2	0.	0.	0.
51.0	40.52	29.23	1723.0	40.89	0.	96.2	0.	0.	0.
52.0	37.22	25.59	1577.2	37.47	0.	92.3	0.	0.	0.
53.0	33.05	21.50	1427.0	33.19	0.	88.5	0.	0.	0.
54.0	28.68	17.63	1284.2	28.72	0.	84.6	0.	0.	0.
55.0	25.38	14.85	1172.3	25.38	0.	81.7	0.	0.	0.
56.0	43.55	31.84	1765.1	43.97	0.	97.3	0.	0.	0.
57.0	47.23	35.04	1813.5	47.71	0.	98.7	0.	0.	0.
58.0	43.39	30.67	1660.2	43.73	0.	94.7	0.	0.	0.
59.0	38.54	25.77	1501.4	38.74	0.	90.8	0.	0.	0.
60.0	33.45	21.10	1350.3	33.53	0.	86.8	0.	0.	0.
61.0	29.61	17.80	1234.0	28.62	0.	83.9	0.	0.	0.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
27.0	1.0000	10.393	10.311	485.69	613.	723.	485.69	49.00	525.	1420.
28.0	1.0000	10.393	10.326	442.89	557.	626.	442.89	44.92	518.	1331.
29.0	1.0000	10.393	10.342	388.82	487.	523.	388.82	39.80	510.	1247.
30.0	1.0000	10.393	10.356	331.27	413.	426.	331.27	34.45	502.	1168.
31.0	1.0000	10.393	10.364	296.06	368.	358.	296.06	30.41	498.	1103.
32.0	1.0000	10.758	10.673	503.83	660.	819.	503.83	50.49	530.	1433.
33.0	1.0000	11.285	11.194	528.37	722.	941.	528.37	52.62	537.	1452.
34.0	1.0000	11.285	11.207	492.72	670.	823.	492.72	48.24	530.	1357.
35.0	1.0000	11.285	11.221	449.69	608.	698.	449.69	42.75	521.	1266.
36.0	1.0000	11.285	11.234	404.31	543.	581.	404.31	37.00	513.	1184.
37.0	1.0000	11.285	11.241	374.40	499.	497.	374.40	32.69	509.	1113.
38.0	1.0000	11.988	11.891	557.05	796.	1091.	557.05	55.44	547.	1479.
39.0	1.0000	12.890	12.788	586.17	882.	1271.	586.17	59.03	558.	1513.
40.0	1.0000	12.890	12.799	558.22	833.	1134.	558.22	54.12	550.	1410.
41.0	1.0000	12.890	12.810	525.73	777.	989.	525.73	47.96	542.	1309.
42.0	1.0000	12.890	12.820	491.92	719.	852.	491.92	41.52	533.	1219.
43.0	1.0000	12.890	12.827	469.71	680.	753.	469.71	36.68	528.	1146.
44.0	1.0000	14.018	13.907	631.84	970.	1435.	631.84	63.46	572.	1552.
45.0	1.0000	7.542	7.482	366.55	694.	901.	366.55	36.43	497.	1343.
46.0	1.0000	7.542	7.490	341.54	643.	789.	341.54	33.38	490.	1255.
47.0	1.0000	7.542	7.500	311.73	584.	669.	311.73	29.56	483.	1173.
48.0	1.0000	7.542	7.508	280.08	521.	557.	280.08	25.58	475.	1097.
49.0	1.0000	7.542	7.513	259.91	480.	477.	259.91	22.60	471.	1031.
50.0	1.0000	8.014	7.949	386.49	765.	1046.	386.49	38.40	506.	1367.
51.0	1.0000	8.618	8.550	406.65	847.	1219.	406.65	40.89	517.	1399.
52.0	1.0000	8.618	8.557	387.15	800.	1088.	387.15	37.47	509.	1303.
53.0	1.0000	8.618	8.564	364.60	746.	949.	364.60	33.18	501.	1211.
54.0	1.0000	8.618	8.571	341.45	692.	818.	341.45	28.72	494.	1129.
55.0	1.0000	8.618	8.576	326.18	654.	724.	326.18	25.38	489.	1061.
56.0	1.0000	9.372	9.298	438.36	932.	1375.	438.36	43.97	530.	1433.
57.0	1.0000	10.299	10.217	475.60	1021.	1541.	475.60	47.71	544.	1474.
58.0	1.0000	10.299	10.223	460.29	978.	1398.	460.29	43.73	536.	1369.
59.0	1.0000	10.299	10.229	442.07	928.	1245.	442.07	38.74	528.	1267.
60.0	1.0000	10.299	10.235	424.37	880.	1102.	424.37	33.53	520.	1178.
61.0	1.0000	10.299	10.238	413.79	848.	1000.	413.79	29.62	515.	1106.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FNG
27.0	96.6	0.	3183.	325.	3255.	0.	10146.	6500.
28.0	87.2	0.	2545.	299.	2968.	0.	8369.	5051.
29.0	75.6	0.	1923.	266.	2605.	0.	6403.	3496.
30.0	63.2	0.	1397.	231.	2220.	0.	4620.	2148.
31.0	55.4	0.	1108.	204.	1984.	0.	3654.	1452.
32.0	97.4	0.	3319.	503.	5064.	0.	11392.	5825.
33.0	98.5	0.	3515.	698.	7081.	0.	13128.	5349.
34.0	90.0	0.	2810.	642.	6603.	0.	11264.	4019.
35.0	79.5	0.	2121.	570.	6027.	0.	9233.	2636.
36.0	68.2	0.	1543.	495.	5418.	0.	7340.	1427.
37.0	60.1	0.	1186.	438.	5018.	0.	6190.	735.
38.0	99.4	0.	3780.	919.	9332.	0.	15355.	5104.
39.0	99.9	0.	4124.	1174.	11783.	0.	18027.	5070.
40.0	92.4	0.	3297.	1074.	11222.	0.	16036.	3740.
41.0	83.3	0.	2490.	959.	10568.	0.	13888.	2360.
42.0	73.4	0.	1806.	832.	9889.	0.	11857.	1136.
43.0	66.0	0.	1363.	737.	9442.	0.	10574.	395.
44.0	101.4	0.	4568.	1472.	14818.	0.	21437.	5146.
45.0	94.6	0.	2228.	466.	4728.	0.	8748.	3554.
46.0	86.4	0.	1781.	428.	4405.	0.	7496.	2662.
47.0	76.3	0.	1347.	380.	4021.	0.	6145.	1744.
48.0	65.3	0.	1011.	330.	3613.	0.	4879.	937.
49.0	57.8	0.	803.	292.	3352.	0.	4131.	486.
50.0	95.5	0.	2395.	614.	6231.	0.	10234.	3389.
51.0	95.9	0.	2613.	784.	7867.	0.	12014.	3363.
52.0	88.7	0.	2089.	720.	7490.	0.	10681.	2471.
53.0	79.9	0.	1578.	640.	7054.	0.	9250.	1556.
54.0	70.5	0.	1155.	555.	6606.	0.	7911.	749.
55.0	63.4	0.	911.	491.	6311.	0.	7061.	259.
56.0	97.3	0.	2890.	983.	9895.	0.	14286.	3409.
57.0	98.7	0.	3238.	1218.	12269.	0.	17037.	3550.
58.0	92.3	0.	2587.	1119.	11874.	0.	15580.	2587.
59.0	84.5	0.	1957.	994.	11404.	0.	13972.	1574.
60.0	76.3	0.	1417.	863.	10947.	0.	12498.	688.
61.0	70.4	0.	1089.	764.	10674.	0.	11589.	151.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
62.0	1.00	30000.	0.40000	235.85	4.364	411.68	1.0000	4.873	424.92
63.0	1.80	30000.	0.40000	235.85	4.364	411.68	1.0000	4.873	424.92
64.0	2.60	30000.	0.40000	235.85	4.364	411.68	1.0000	4.873	424.92
65.0	3.40	30000.	0.40000	235.85	4.364	411.68	1.0000	4.873	424.92
66.0	4.00	30000.	0.40000	235.85	4.364	411.68	1.0000	4.873	424.92
67.0	1.00	30000.	0.50000	294.81	4.364	411.68	1.0000	5.177	432.36
68.0	1.00	30000.	0.60000	353.78	4.364	411.68	1.0000	5.568	441.45
69.0	1.80	30000.	0.60000	353.78	4.364	411.68	1.0000	5.568	441.45
70.0	2.60	30000.	0.60000	353.78	4.364	411.68	1.0000	5.568	441.45
71.0	3.40	30000.	0.60000	353.78	4.364	411.68	1.0000	5.568	441.45
72.0	4.00	30000.	0.60000	353.78	4.364	411.68	1.0000	5.568	441.45
73.0	1.00	30000.	0.70000	412.74	4.364	411.68	1.0000	6.056	452.20
74.0	1.00	30000.	0.80000	471.70	4.364	411.68	1.0000	6.656	464.61
75.0	1.80	30000.	0.80000	471.70	4.364	411.68	1.0000	6.656	464.61
76.0	2.60	30000.	0.80000	471.70	4.364	411.68	1.0000	6.656	464.61
77.0	3.40	30000.	0.80000	471.70	4.364	411.68	1.0000	6.656	464.61
78.0	4.00	30000.	0.80000	471.70	4.364	411.68	1.0000	6.656	464.61
79.0	1.00	30000.	0.90000	530.66	4.364	411.68	1.0000	7.386	478.67
80.0	1.00	36089.	0.40000	229.55	3.283	389.97	1.0000	3.665	402.50
81.0	1.80	36089.	0.40000	229.55	3.283	389.97	1.0000	3.665	402.50
82.0	2.60	36089.	0.40000	229.55	3.283	389.97	1.0000	3.665	402.50
83.0	3.40	36089.	0.40000	229.55	3.283	389.97	1.0000	3.665	402.50
84.0	4.00	36089.	0.40000	229.55	3.283	389.97	1.0000	3.665	402.50
85.0	1.00	36089.	0.50000	286.94	3.283	389.97	1.0000	3.893	409.55
86.0	1.00	36089.	0.60000	344.33	3.283	389.97	1.0000	4.186	418.17
87.0	1.80	36089.	0.60000	344.33	3.283	389.97	1.0000	4.186	418.17
88.0	2.60	36089.	0.60000	344.33	3.283	389.97	1.0000	4.186	418.17
89.0	3.40	36089.	0.60000	344.33	3.283	389.97	1.0000	4.186	418.17
90.0	4.00	36089.	0.60000	344.33	3.283	389.97	1.0000	4.186	418.17
91.0	1.00	36089.	0.70000	401.71	3.283	389.97	1.0000	4.553	428.35
92.0	1.00	36089.	0.80000	459.10	3.283	389.97	1.0000	5.004	440.10
93.0	1.80	36089.	0.80000	459.10	3.283	389.97	1.0000	5.004	440.10
94.0	2.60	36089.	0.80000	459.10	3.283	389.97	1.0000	5.004	440.10
95.0	3.40	36089.	0.80000	459.10	3.283	389.97	1.0000	5.004	440.10
96.0	4.00	36089.	0.80000	459.10	3.283	389.97	1.0000	5.004	440.10
97.0	1.00	36089.	0.90000	516.49	3.283	389.97	1.0000	5.553	453.42

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
62.0	24.27	16.43	1529.5	24.43	0.	90.5	0.	0.	0.
63.0	22.27	14.34	1398.4	22.37	0.	86.9	0.	0.	0.
64.0	19.75	12.07	1266.5	19.79	0.	83.3	0.	0.	0.
65.0	17.11	9.87	1137.8	17.12	0.	79.7	0.	0.	0.
66.0	15.12	8.36	1043.7	15.10	0.	76.9	0.	0.	0.
67.0	25.58	17.46	1555.3	25.75	0.	91.3	0.	0.	0.
68.0	27.23	18.80	1587.9	27.43	0.	92.3	0.	0.	0.
69.0	24.99	16.43	1452.4	25.12	0.	88.6	0.	0.	0.
70.0	22.17	13.81	1314.9	22.23	0.	84.9	0.	0.	0.
71.0	19.21	11.30	1182.0	19.23	0.	81.2	0.	0.	0.
72.0	16.99	9.52	1079.4	16.97	0.	78.4	0.	0.	0.
73.0	29.27	20.47	1626.3	29.51	0.	93.4	0.	0.	0.
74.0	31.75	22.53	1670.8	32.02	0.	94.6	0.	0.	0.
75.0	29.15	19.71	1528.6	29.33	0.	90.9	0.	0.	0.
76.0	25.87	16.55	1383.7	25.96	0.	87.1	0.	0.	0.
77.0	22.43	13.57	1244.8	22.46	0.	83.3	0.	0.	0.
78.0	19.84	11.42	1135.9	19.84	0.	80.5	0.	0.	0.
79.0	34.73	25.04	1720.8	35.04	0.	96.1	0.	0.	0.
80.0	18.71	11.29	1449.1	18.81	0.	88.1	0.	0.	0.
81.0	17.15	10.73	1325.0	17.21	0.	84.6	0.	0.	0.
82.0	15.20	9.02	1200.0	15.22	0.	81.0	0.	0.	0.
83.0	13.15	7.37	1078.7	13.15	0.	77.5	0.	0.	0.
84.0	11.61	6.25	990.0	11.59	0.	74.9	0.	0.	0.
85.0	19.72	13.07	1474.5	19.83	0.	88.9	0.	0.	0.
86.0	21.00	14.08	1505.5	21.13	0.	89.8	0.	0.	0.
87.0	19.25	12.31	1378.2	19.33	0.	86.2	0.	0.	0.
88.0	17.06	10.34	1246.8	17.10	0.	82.6	0.	0.	0.
89.0	14.78	8.45	1120.6	14.78	0.	79.0	0.	0.	0.
90.0	13.05	7.11	1023.0	13.04	0.	76.3	0.	0.	0.
91.0	22.58	15.34	1542.2	22.73	0.	90.9	0.	0.	0.
92.0	24.49	16.89	1584.3	24.67	0.	92.1	0.	0.	0.
93.0	22.47	14.75	1449.0	22.58	0.	88.4	0.	0.	0.
94.0	19.92	12.39	1311.7	19.97	0.	84.7	0.	0.	0.
95.0	17.26	10.14	1179.0	17.27	0.	81.1	0.	0.	0.
96.0	15.26	8.54	1076.6	15.24	0.	78.3	0.	0.	0.
97.0	26.79	18.77	1632.0	27.00	0.	93.5	0.	0.	0.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	W0LU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
62.0	1.0000	4.873	4.834	246.44	664.	861.	246.44	24.43	458.	1234.
63.0	1.0000	4.873	4.840	229.29	615.	753.	229.29	22.37	451.	1155.
64.0	1.0000	4.873	4.846	209.29	558.	639.	209.29	19.79	444.	1080.
65.0	1.0000	4.873	4.851	187.87	498.	531.	187.87	17.12	437.	1010.
66.0	1.0000	4.873	4.854	174.54	459.	455.	174.54	15.10	433.	950.
67.0	1.0000	5.177	5.136	259.96	733.	999.	259.96	25.75	466.	1256.
68.0	1.0000	5.568	5.524	273.65	811.	1165.	273.65	27.43	476.	1285.
69.0	1.0000	5.568	5.529	260.25	766.	1039.	260.25	25.12	469.	1198.
70.0	1.0000	5.568	5.533	245.08	714.	907.	245.08	22.23	461.	1115.
71.0	1.0000	5.568	5.538	229.51	662.	782.	229.51	19.23	454.	1040.
72.0	1.0000	5.568	5.541	219.38	626.	692.	219.38	16.97	450.	977.
73.0	1.0000	6.056	6.008	295.09	893.	1315.	295.09	29.51	487.	1317.
74.0	1.0000	6.656	6.603	320.23	979.	1473.	320.23	32.02	501.	1354.
75.0	1.0000	6.656	6.607	309.73	937.	1336.	309.73	29.33	493.	1258.
76.0	1.0000	6.656	6.611	297.61	889.	1191.	297.61	25.96	485.	1166.
77.0	1.0000	6.656	6.615	285.81	843.	1055.	285.81	22.46	478.	1085.
78.0	1.0000	6.656	6.617	278.62	812.	957.	278.62	19.84	474.	1018.
79.0	1.0000	7.386	7.327	350.94	1016.	1632.	350.94	35.04	516.	1396.
80.0	1.0000	3.665	3.636	189.92	645.	834.	189.92	18.81	433.	1168.
81.0	1.0000	3.665	3.640	176.66	597.	730.	176.66	17.21	427.	1094.
82.0	1.0000	3.665	3.644	161.06	541.	620.	161.06	15.22	420.	1024.
83.0	1.0000	3.665	3.648	144.62	482.	515.	144.62	13.15	414.	958.
84.0	1.0000	3.665	3.651	134.54	446.	441.	134.54	11.59	410.	902.
85.0	1.0000	3.893	3.862	200.48	712.	969.	200.48	19.83	441.	1189.
86.0	1.0000	4.186	4.153	211.12	788.	1130.	211.12	21.13	450.	1217.
87.0	1.0000	4.186	4.157	200.81	744.	1009.	200.81	19.33	444.	1136.
88.0	1.0000	4.186	4.160	188.99	694.	880.	188.99	17.10	437.	1057.
89.0	1.0000	4.186	4.164	176.98	643.	758.	176.98	14.78	430.	986.
90.0	1.0000	4.186	4.166	169.22	608.	671.	169.22	13.03	426.	926.
91.0	1.0000	4.553	4.517	227.77	868.	1276.	227.77	22.73	461.	1247.
92.0	1.0000	5.004	4.964	247.27	951.	1430.	247.27	24.67	474.	1282.
93.0	1.0000	5.004	4.967	238.97	910.	1297.	238.97	22.58	467.	1192.
94.0	1.0000	5.004	4.970	229.70	864.	1157.	229.70	19.97	460.	1105.
95.0	1.0000	5.004	4.973	220.53	819.	1024.	220.53	17.27	453.	1027.
96.0	1.0000	5.004	4.975	215.04	790.	929.	215.04	15.24	448.	965.
97.0	1.0000	5.553	5.509	271.09	989.	1585.	271.09	27.00	488.	1321.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FNG
62.0	90.6	0.	1362.	300.	3049.	0.	5627.	2277.
63.0	82.5	0.	1087.	276.	2837.	0.	4808.	1695.
64.0	72.9	0.	865.	244.	2590.	0.	3943.	1109.
65.0	62.3	0.	661.	214.	2325.	0.	3125.	586.
66.0	55.2	0.	525.	187.	2160.	0.	2651.	304.
67.0	91.5	0.	1463.	396.	4021.	0.	6587.	2170.
68.0	91.9	0.	1595.	505.	5079.	0.	7738.	2154.
69.0	84.8	0.	1274.	464.	4831.	0.	6867.	1572.
70.0	76.3	0.	986.	411.	4549.	0.	5947.	987.
71.0	67.3	0.	755.	357.	4260.	0.	5085.	468.
72.0	60.7	0.	596.	315.	4072.	0.	4544.	157.
73.0	93.2	0.	1764.	634.	6390.	0.	9207.	2183.
74.0	94.6	0.	1975.	786.	7925.	0.	10983.	2272.
75.0	88.3	0.	1578.	771.	7665.	0.	10033.	1597.
76.0	80.9	0.	1193.	640.	7365.	0.	9006.	1000.
77.0	73.1	0.	903.	555.	7073.	0.	8063.	435.
78.0	67.4	0.	712.	491.	6895.	0.	7474.	88.
79.0	96.1	0.	2237.	967.	9771.	0.	13162.	2424.
80.0	87.9	0.	990.	225.	2287.	0.	4207.	1695.
81.0	80.0	0.	824.	207.	2128.	0.	3594.	1259.
82.0	70.6	0.	655.	183.	1940.	0.	2940.	818.
83.0	60.3	0.	501.	158.	1742.	0.	2331.	432.
84.0	53.5	0.	398.	140.	1620.	0.	1982.	222.
85.0	88.8	0.	1060.	297.	3018.	0.	4931.	1616.
86.0	89.2	0.	1156.	379.	3814.	0.	5797.	1604.
87.0	82.4	0.	942.	348.	3628.	0.	5146.	1170.
88.0	74.1	0.	748.	308.	3414.	0.	4452.	730.
89.0	65.3	0.	573.	267.	3197.	0.	3806.	342.
90.0	58.8	0.	451.	236.	3057.	0.	3403.	110.
91.0	90.6	0.	1279.	476.	4801.	0.	6903.	1627.
92.0	91.9	0.	1432.	590.	5956.	0.	8240.	1694.
93.0	85.7	0.	1143.	541.	5756.	0.	7517.	1220.
94.0	78.6	0.	893.	480.	5533.	0.	6752.	739.
95.0	70.9	0.	684.	416.	5312.	0.	6042.	314.
96.0	65.4	0.	539.	367.	5180.	0.	5604.	57.
97.0	93.5	0.	1621.	726.	7346.	0.	9882.	1810.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	P0	TO	ETARGG	P2GG	T2
98.0	1.00	40000.	0.60000	344.33	2.720	389.97	1.0000	3.469	418.17
99.0	1.00	40000.	0.70000	401.71	2.720	389.97	1.0000	3.773	428.35
100.0	1.00	40000.	0.80000	459.10	2.720	389.97	1.0000	4.146	440.10
101.0	1.00	40000.	0.90000	516.49	2.720	389.97	1.0000	4.601	453.42
102.0	1.00	20000.	0.75000	460.95	6.753	447.35	1.0000	9.812	497.88
103.0	1.80	20000.	0.75000	460.95	6.753	447.35	1.0000	9.812	497.88
104.0	2.60	20000.	0.75000	460.95	6.753	447.35	1.0000	9.812	497.88
105.0	3.40	20000.	0.75000	460.95	6.753	447.35	1.0000	9.812	497.88
106.0	4.00	20000.	0.75000	460.95	6.753	447.35	1.0000	9.812	497.88
107.0	1.00	25000.	0.75000	451.68	5.454	429.52	1.0000	7.925	478.04
108.0	1.80	25000.	0.75000	451.68	5.454	429.52	1.0000	7.925	478.04
109.0	2.60	25000.	0.75000	451.68	5.454	429.52	1.0000	7.925	478.04
110.0	3.40	25000.	0.75000	451.68	5.454	429.52	1.0000	7.925	478.04
111.0	4.00	25000.	0.75000	451.68	5.454	429.52	1.0000	7.925	478.04
112.0	1.00	30000.	0.75000	442.22	4.364	411.68	1.0000	6.341	458.20
113.0	1.80	30000.	0.75000	442.22	4.364	411.68	1.0000	6.341	458.20
114.0	2.60	30000.	0.75000	442.22	4.364	411.68	1.0000	6.341	458.20
115.0	3.40	30000.	0.75000	442.22	4.364	411.68	1.0000	6.341	458.20
116.0	4.00	30000.	0.75000	442.22	4.364	411.68	1.0000	6.341	458.20
117.0	1.00	36089.	0.75000	430.41	3.283	389.97	1.0000	4.767	434.03
118.0	1.80	36089.	0.75000	430.41	3.283	389.97	1.0000	4.767	434.03
119.0	2.60	36089.	0.75000	430.41	3.283	389.97	1.0000	4.767	434.03
120.0	3.40	36089.	0.75000	430.41	3.283	389.97	1.0000	4.767	434.03
121.0	4.00	36089.	0.75000	430.41	3.283	389.97	1.0000	4.767	434.03

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	W0GG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
98.0	17.35	11.65	1507.8	17.46	0.	89.8	0.	0.	0.
99.0	18.66	12.69	1544.3	18.78	0.	90.9	0.	0.	0.
100.0	20.24	13.97	1586.7	20.39	0.	92.1	0.	0.	0.
101.0	22.15	15.53	1634.6	22.33	0.	93.5	0.	0.	0.
102.0	45.30	33.36	1788.5	45.75	0.	98.0	0.	0.	0.
103.0	41.62	29.20	1637.3	41.93	0.	94.1	0.	0.	0.
104.0	36.97	24.53	1480.7	37.14	0.	90.1	0.	0.	0.
105.0	32.08	20.10	1332.2	32.14	0.	86.2	0.	0.	0.
106.0	28.40	16.95	1217.0	28.40	0.	83.3	0.	0.	0.
107.0	37.30	26.87	1717.8	37.64	0.	96.0	0.	0.	0.
108.0	34.26	23.52	1572.4	34.49	0.	92.2	0.	0.	0.
109.0	30.42	19.76	1422.7	30.54	0.	88.3	0.	0.	0.
110.0	26.38	16.20	1280.4	26.42	0.	84.5	0.	0.	0.
111.0	23.35	13.63	1167.7	23.35	0.	81.6	0.	0.	0.
112.0	30.46	21.45	1647.9	30.71	0.	94.0	0.	0.	0.
113.0	27.96	18.76	1507.4	28.12	0.	90.2	0.	0.	0.
114.0	24.81	15.76	1364.6	24.89	0.	86.5	0.	0.	0.
115.0	21.51	12.90	1226.8	21.53	0.	82.7	0.	0.	0.
116.0	19.03	10.87	1120.2	19.02	0.	79.9	0.	0.	0.
117.0	23.49	16.07	1562.6	23.65	0.	91.5	0.	0.	0.
118.0	21.55	14.04	1429.2	21.65	0.	87.8	0.	0.	0.
119.0	19.10	11.80	1293.6	19.15	0.	84.2	0.	0.	0.
120.0	16.55	9.65	1162.7	16.56	0.	80.5	0.	0.	0.
121.0	14.63	8.13	1061.8	14.61	0.	77.8	0.	0.	0.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
98.0	1.0000	3.469	3.442	174.88	788.	1130.	174.88	17.46	450.	1219.
99.0	1.0000	3.773	3.743	188.68	867.	1276.	188.68	18.78	461.	1249.
100.0	1.0000	4.146	4.114	204.86	951.	1430.	204.86	20.39	474.	1284.
101.0	1.0000	4.601	4.565	224.61	989.	1586.	224.61	22.33	488.	1324.
102.0	1.0000	9.812	9.735	454.13	977.	1463.	454.13	45.75	537.	1454.
103.0	1.0000	9.812	9.741	437.93	933.	1323.	437.93	41.93	529.	1351.
104.0	1.0000	9.812	9.748	418.96	882.	1173.	418.96	37.14	520.	1252.
105.0	1.0000	9.812	9.754	400.17	832.	1033.	400.17	32.14	513.	1165.
106.0	1.0000	9.812	9.757	388.49	799.	933.	388.49	28.40	508.	1094.
107.0	1.0000	7.925	7.863	374.15	957.	1431.	374.15	37.64	515.	1395.
108.0	1.0000	7.925	7.868	360.71	913.	1294.	360.71	34.49	508.	1297.
109.0	1.0000	7.925	7.873	345.22	864.	1148.	345.22	30.54	500.	1202.
110.0	1.0000	7.925	7.878	329.81	815.	1012.	329.81	26.42	492.	1119.
111.0	1.0000	7.925	7.881	320.10	782.	913.	320.10	23.35	487.	1050.
112.0	1.0000	6.341	6.291	305.75	936.	1399.	305.75	30.71	494.	1336.
113.0	1.0000	6.341	6.295	294.60	893.	1264.	294.60	28.12	486.	1242.
114.0	1.0000	6.341	6.299	281.98	845.	1122.	281.98	24.89	479.	1152.
115.0	1.0000	6.341	6.303	269.36	797.	989.	269.36	21.53	471.	1072.
116.0	1.0000	6.341	6.306	261.53	765.	893.	261.53	19.02	467.	1007.
117.0	1.0000	4.767	4.730	236.04	910.	1357.	236.04	23.65	467.	1264.
118.0	1.0000	4.767	4.733	227.31	868.	1227.	227.31	21.65	461.	1177.
119.0	1.0000	4.767	4.736	217.58	821.	1090.	217.58	19.15	453.	1092.
120.0	1.0000	4.767	4.739	207.84	774.	960.	207.84	16.56	447.	1016.
121.0	1.0000	4.767	4.740	201.83	744.	867.	201.83	14.61	442.	955.

GENERAL ELECTRIC COMPANY
RLF SYSTEM A CRUISE ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FNG
98.0	89.2	0.	958.	313.	3159.	0.	4799.	1326.
99.0	90.5	0.	1059.	393.	3977.	0.	5715.	1345.
100.0	91.9	0.	1186.	488.	4934.	0.	6823.	1401.
101.0	93.5	0.	1344.	600.	6086.	0.	8184.	1498.
102.0	97.8	0.	3055.	1096.	10983.	0.	15554.	3475.
103.0	91.1	0.	2441.	1007.	10591.	0.	14135.	2537.
104.0	83.1	0.	1842.	894.	10132.	0.	12585.	1559.
105.0	74.6	0.	1338.	776.	9678.	0.	11154.	700.
106.0	68.4	0.	1037.	687.	9395.	0.	10259.	177.
107.0	95.7	0.	2397.	884.	8866.	0.	12544.	2793.
108.0	89.1	0.	1916.	814.	8548.	0.	11395.	2033.
109.0	81.3	0.	1448.	721.	8181.	0.	10153.	1251.
110.0	73.1	0.	1068.	625.	7816.	0.	9003.	562.
111.0	66.9	0.	842.	553.	7586.	0.	8276.	138.
112.0	93.6	0.	1864.	707.	7094.	0.	10026.	2225.
113.0	87.1	0.	1489.	649.	6835.	0.	9098.	1614.
114.0	79.5	0.	1126.	576.	6542.	0.	8109.	991.
115.0	71.4	0.	860.	499.	6249.	0.	7189.	440.
116.0	65.4	0.	678.	441.	6068.	0.	6614.	105.
117.0	91.0	0.	1351.	530.	5330.	0.	7520.	1659.
118.0	84.6	0.	1079.	487.	5133.	0.	6817.	1197.
119.0	77.2	0.	851.	431.	4913.	0.	6077.	733.
120.0	69.3	0.	652.	474.	4693.	0.	5387.	220.
121.0	63.5	0.	514.	330.	4558.	0.	4957.	70.

APPENDIX C

REMOTE LIFT FAN SYSTEM A

(Turbojet/1.25 Pressure Ratio Lift Units)

Supplemental Estimated Internal Cruise Performance

REMOTE LIFT FAN SYSTEM A

Estimated Internal Cruise Performance

Supplemental Data for Reference Size Gas Generator

<u>CASE</u>	<u>PS</u>	<u>ALT</u>	<u>MO</u>	<u>VOKNTS</u>	<u>PO</u>	<u>TO</u>	<u>ETARGG</u>	<u>P2GG</u>	<u>T2</u>
12	0	20000	0.6	368.76	6.753	447.35	1.000	8.618	479.69
15			0.7	430.22				9.372	491.37
18			0.8	491.68				10.299	504.84
21		30000	0.6	353.78	4.364	411.68		5.568	441.45
24			0.7	412.74				6.056	452.20
27			0.8	471.70				6.656	464.61
30			0.9	530.66				7.386	478.67
33		36089	0.7	401.71	3.283	389.97		4.553	428.35
36			0.8	459.10				5.004	440.10
39			0.9	516.49				5.553	453.42

<u>CASE</u>	<u>WOGG</u>	<u>PEXGG</u>	<u>TEXGG</u>	<u>WEXGG</u>	<u>PCNFGG</u>	<u>PCNGG</u>	<u>W8GG</u>	<u>V8GG</u>	<u>T8GG</u>
12	42.51	32.30	1892.0	43.01	0	101.0	0	0	0
15	45.67	35.13	1935.5	46.24		102.2			
18	49.52	38.61	1985.6	50.16		103.6			
21	28.62	20.79	1742.3	28.91		96.9			
24	30.75	22.64	1784.6	31.08		98.0			
27	33.35	24.90	1833.3	33.72		99.4			
30	36.46	27.69	1890.1	36.89		100.9			
33	23.75	17.00	1693.3	23.97		95.4			
36	25.75	18.69	1738.5	26.01		96.7			
39	28.16	20.77	1791.0	28.46		98.2			

REMOTE LIFT FAN SYSTEM A

Estimated Internal Cruise Performance

Supplemental Data for Reference Size Gas Generator

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
12	1.000	8.618	8.544	421.67	884.	1350.	421.67	43.01	523.	1526.
15		9.372	9.293	451.63	967.	1512.	451.63	46.24	536.	1564.
18		10.299	10.213	487.23	1050.	1682.	487.23	50.16	551.	1607.
21		5.568	5.520	283.86	847.	1290.	283.86	28.90	481.	1401.
24		6.056	6.005	304.22	927.	1447.	304.22	31.08	493.	1437.
27		6.656	6.600	328.34	1008.	1611.	328.34	33.72	507.	1479.
30		7.386	7.324	359.23	1023.	1736.	359.23	36.89	522.	1526.
33		4.553	4.514	234.98	902.	1405.	234.98	23.97	467.	1360.
36		5.004	4.962	253.64	981.	1564.	253.64	26.01	480.	1399.
39		5.553	5.506	277.51	995.	1690.	277.51	28.46	495.	1443.
CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FN		
12	101.6	0	3166.	822.	8158.	0	13129.	4149.		
15	102.6		3494.	1031.	10194.		15440.	4215.		
18	103.8		3906.	1277.	12569.		18237.	4391.		
21	97.3		1931.	531.	5269.		8463.	2663.		
24	98.4		2136.	666.	6588.		9965.	2711.		
27	99.5		2391.	825.	8126.		11780.	2829.		
30	101.1		2713.	1015.	10001.		14044.	3028.		
33	95.7		1550.	500.	4952.		7483.	2030.		
36	96.8		1734.	620.	6109.		8846.	2116.		
39	98.4		1964.	763.	7520.		10546.	2263.		

APPENDIX D

REMOTE LIFT FAN SYSTEM C

(Turbofan/1.25 Pressure Ratio Lift Units)

Estimated Installed V/STOL Performance

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PS	ALT	MO VOKNTS	P0	TO ETARGG	P2GG	T2
1.0	1.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
2.0	1.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
3.0	1.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
4.0	1.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
5.0	2.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
6.0	2.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
7.0	2.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
8.0	2.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
9.0	3.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
10.0	3.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
11.0	3.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
12.0	3.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
13.0	4.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
14.0	4.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
15.0	4.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
16.0	4.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
17.0	5.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
18.0	5.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
19.0	5.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
20.0	5.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
21.0	6.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
22.0	6.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
23.0	6.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
24.0	6.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
25.0	7.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
26.0	7.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
27.0	7.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67
28.0	7.00	0. 0.	0.	14.696	518.67	1.0000	14.696 518.67

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
1.0	95.15	53.46	796.4	62.07	100.0	123.9	33.55	663.3	1588.
2.0	95.15	53.46	796.4	62.07	100.0	123.9	33.55	663.3	1588.
3.0	95.15	53.46	796.4	62.07	100.0	123.9	33.55	663.3	1588.
4.0	95.15	53.46	796.4	62.07	100.0	123.9	33.55	663.3	1588.
5.0	87.41	48.64	768.1	57.12	95.0	120.8	30.66	587.6	1532.
6.0	87.41	48.64	768.1	57.12	95.0	120.8	30.66	587.6	1532.
7.0	87.41	48.64	768.1	57.12	95.0	120.8	30.66	587.6	1532.
8.0	87.41	48.64	768.1	57.12	95.0	120.8	30.66	587.6	1532.
9.0	77.12	42.11	733.0	50.68	90.0	117.1	26.71	497.2	1484.
10.0	77.12	42.11	733.0	50.68	90.0	117.1	26.71	497.2	1484.
11.0	77.12	42.11	733.0	50.68	90.0	117.1	26.71	497.2	1484.
12.0	77.12	42.11	733.0	50.68	90.0	117.1	26.71	497.2	1484.
13.0	68.52	36.73	702.1	45.34	85.0	113.7	23.38	425.0	1447.
14.0	68.52	36.73	702.1	45.34	85.0	113.7	23.38	425.0	1447.
15.0	68.52	36.73	702.1	45.34	85.0	113.7	23.38	425.0	1447.
16.0	68.52	36.73	702.1	45.34	85.0	113.7	23.38	425.0	1447.
17.0	61.18	32.45	675.7	40.67	80.0	110.4	20.63	368.0	1417.
18.0	61.18	32.45	675.7	40.67	80.0	110.4	20.63	368.0	1417.
19.0	61.18	32.45	675.7	40.67	80.0	110.4	20.63	368.0	1417.
20.0	61.18	32.45	675.7	40.67	80.0	110.4	20.63	368.0	1417.
21.0	55.61	29.23	653.6	37.22	75.0	107.4	18.47	324.9	1394.
22.0	55.61	29.23	653.6	37.22	75.0	107.4	18.47	324.9	1394.
23.0	55.61	29.23	653.6	37.22	75.0	107.4	18.47	324.9	1394.
24.0	55.61	29.23	653.6	37.22	75.0	107.4	18.47	324.9	1394.
25.0	50.50	26.45	632.8	34.06	70.0	104.0	16.48	287.7	1371.
26.0	50.50	26.45	632.8	34.06	70.0	104.0	16.48	287.7	1371.
27.0	50.50	26.45	632.8	34.06	70.0	104.0	16.48	287.7	1371.
28.0	50.50	26.45	632.8	34.06	70.0	104.0	16.48	287.7	1371.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	W0LU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
1.0	1.0000	14.696	14.580	635.96	604.	646.	635.96	63.07	559.	1507.
2.0	1.0000	14.696	14.581	632.35	607.	649.	632.35	63.07	559.	1508.
3.0	1.0000	14.696	14.586	619.25	616.	660.	619.25	63.07	560.	1509.
4.0	1.0000	14.696	14.593	602.31	626.	674.	602.31	63.07	561.	1510.
5.0	1.0000	14.696	14.593	600.89	570.	595.	600.89	58.04	555.	1505.
6.0	1.0000	14.696	14.594	597.35	572.	598.	597.35	58.04	555.	1505.
7.0	1.0000	14.696	14.599	584.73	580.	609.	584.73	58.04	555.	1506.
8.0	1.0000	14.696	14.605	568.30	590.	621.	568.30	58.04	556.	1507.
9.0	1.0000	14.696	14.615	538.16	509.	522.	538.16	51.47	547.	1482.
10.0	1.0000	14.696	14.616	534.78	511.	525.	534.78	51.47	548.	1482.
11.0	1.0000	14.696	14.620	522.82	518.	534.	522.82	51.47	548.	1483.
12.0	1.0000	14.696	14.624	507.71	525.	545.	507.71	51.47	549.	1484.
13.0	1.0000	14.696	14.634	475.21	448.	460.	475.21	46.01	541.	1456.
14.0	1.0000	14.696	14.634	472.11	450.	462.	472.11	46.01	541.	1456.
15.0	1.0000	14.696	14.637	461.31	455.	470.	461.31	46.01	542.	1457.
16.0	1.0000	14.696	14.641	447.70	462.	480.	447.70	46.01	542.	1457.
17.0	1.0000	14.696	14.647	424.70	400.	413.	424.70	41.28	537.	1454.
18.0	1.0000	14.696	14.647	421.94	401.	415.	421.94	41.28	537.	1454.
19.0	1.0000	14.696	14.650	412.29	406.	422.	412.29	41.28	537.	1454.
20.0	1.0000	14.696	14.652	400.22	412.	431.	400.22	41.28	538.	1455.
21.0	1.0000	14.696	14.656	385.01	362.	369.	385.01	37.76	533.	1421.
22.0	1.0000	14.696	14.656	382.52	363.	371.	382.52	37.76	534.	1421.
23.0	1.0000	14.696	14.658	373.76	368.	377.	373.76	37.76	534.	1421.
24.0	1.0000	14.696	14.660	362.83	373.	385.	362.83	37.76	534.	1421.
25.0	1.0000	14.696	14.663	348.14	327.	322.	348.14	34.53	531.	1355.
26.0	1.0000	14.696	14.664	345.84	328.	324.	345.84	34.53	531.	1355.
27.0	1.0000	14.696	14.665	337.83	332.	330.	337.83	34.53	531.	1356.
28.0	1.0000	14.696	14.667	327.93	337.	337.	327.93	34.53	531.	1356.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
1.0	100.1	0.	6232.	0.	0.	667.	11668.	917.
2.0	99.8	15.00	6232.	0.	0.	667.	11637.	903.
3.0	99.0	30.00	6232.	0.	0.	667.	11280.	854.
4.0	98.1	40.00	6232.	0.	0.	667.	9335.	795.
5.0	94.2	0.	5583.	0.	0.	541.	10344.	817.
6.0	94.0	15.00	5583.	0.	0.	541.	10312.	805.
7.0	93.3	30.00	5583.	0.	0.	541.	9986.	762.
8.0	92.7	40.00	5583.	0.	0.	541.	8252.	710.
9.0	84.1	0.	4687.	0.	0.	398.	8249.	653.
10.0	84.0	15.00	4687.	0.	0.	398.	8217.	643.
11.0	83.5	30.00	4687.	0.	0.	398.	7939.	609.
12.0	82.9	40.00	4687.	0.	0.	398.	6548.	569.
13.0	74.4	0.	3954.	0.	0.	298.	6422.	508.
14.0	74.3	15.00	3954.	0.	0.	298.	6395.	500.
15.0	73.8	30.00	3954.	0.	0.	298.	6171.	474.
16.0	73.4	40.00	3954.	0.	0.	298.	5084.	444.
17.0	66.5	0.	3446.	0.	0.	228.	5124.	405.
18.0	66.5	15.00	3446.	0.	0.	228.	5102.	399.
19.0	66.1	30.00	3446.	0.	0.	228.	4924.	379.
20.0	65.8	40.00	3446.	0.	0.	228.	4057.	355.
21.0	60.4	0.	3010.	0.	0.	180.	4204.	332.
22.0	60.4	15.00	3010.	0.	0.	180.	4186.	327.
23.0	60.1	30.00	3010.	0.	0.	180.	4038.	311.
24.0	59.8	40.00	3010.	0.	0.	180.	3328.	292.
25.0	54.7	0.	2561.	0.	0.	142.	3425.	271.
26.0	54.6	15.00	2561.	0.	0.	142.	3410.	267.
27.0	54.4	30.00	2561.	0.	0.	142.	3288.	254.
28.0	54.2	40.00	2561.	0.	0.	142.	2708.	239.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
29.0	1.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
30.0	1.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
31.0	1.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
32.0	1.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
33.0	2.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
34.0	2.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
35.0	2.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
36.0	2.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
37.0	3.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
38.0	3.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
39.0	3.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
40.0	3.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
41.0	4.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
42.0	4.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
43.0	4.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
44.0	4.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
45.0	5.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
46.0	5.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
47.0	5.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
48.0	5.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
49.0	6.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
50.0	6.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
51.0	6.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
52.0	6.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
53.0	7.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
54.0	7.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
55.0	7.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26
56.0	7.00	0.	0.07557	50.00	14.696	518.67	1.0000	14.755	519.26

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
29.0	95.48	53.68	797.3	62.30	100.1	123.9	33.64	666.3	1588.
30.0	95.48	53.68	797.3	62.30	100.1	123.9	33.64	666.3	1588.
31.0	95.48	53.68	797.3	62.30	100.1	123.9	33.64	666.3	1588.
32.0	95.48	53.68	797.3	62.30	100.1	123.9	33.64	666.3	1588.
33.0	87.72	48.83	769.0	57.32	95.1	120.9	30.76	588.5	1531.
34.0	87.72	48.83	769.0	57.32	95.1	120.9	30.76	588.5	1531.
35.0	87.72	48.83	769.0	57.32	95.1	120.9	30.76	588.5	1531.
36.0	87.72	48.83	769.0	57.32	95.1	120.9	30.76	588.5	1531.
37.0	77.38	42.28	733.9	50.86	90.1	117.1	26.79	499.0	1484.
38.0	77.38	42.28	733.9	50.86	90.1	117.1	26.79	499.0	1484.
39.0	77.38	42.28	733.9	50.86	90.1	117.1	26.79	499.0	1484.
40.0	77.38	42.28	733.9	50.86	90.1	117.1	26.79	499.0	1484.
41.0	68.76	36.87	702.9	45.50	85.1	113.7	23.45	426.0	1446.
42.0	68.76	36.87	702.9	45.50	85.1	113.7	23.45	426.0	1446.
43.0	68.76	36.87	702.9	45.50	85.1	113.7	23.45	426.0	1446.
44.0	68.76	36.87	702.9	45.50	85.1	113.7	23.45	426.0	1446.
45.0	61.39	32.58	676.5	40.82	80.1	110.4	20.70	368.5	1416.
46.0	61.39	32.58	676.5	40.82	80.1	110.4	20.70	368.5	1416.
47.0	61.39	32.58	676.5	40.82	80.1	110.4	20.70	368.5	1416.
48.0	61.39	32.58	676.5	40.82	80.1	110.4	20.70	368.5	1416.
49.0	55.80	29.35	654.4	37.36	75.0	107.4	18.53	325.4	1393.
50.0	55.80	29.35	654.4	37.36	75.0	107.4	18.53	325.4	1393.
51.0	55.80	29.35	654.4	37.36	75.0	107.4	18.53	325.4	1393.
52.0	55.80	29.35	654.4	37.36	75.0	107.4	18.53	325.4	1393.
53.0	50.67	26.55	633.5	34.18	70.0	104.0	16.53	287.7	1369.
54.0	50.67	26.55	633.5	34.18	70.0	104.0	16.53	287.7	1369.
55.0	50.67	26.55	633.5	34.18	70.0	104.0	16.53	287.7	1369.
56.0	50.67	26.55	633.5	34.18	70.0	104.0	16.53	287.7	1369.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	W0LU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
29.0	1.0000	14.755	14.639	635.82	623.	648.	635.82	63.30	560.	1508.
30.0	1.0000	14.755	14.640	631.85	626.	651.	631.85	63.30	560.	1508.
31.0	1.0000	14.755	14.646	617.30	635.	663.	617.30	63.30	561.	1509.
32.0	1.0000	14.755	14.653	598.57	644.	677.	598.57	63.30	562.	1510.
33.0	1.0000	14.755	14.652	600.89	590.	597.	600.89	58.25	556.	1504.
34.0	1.0000	14.755	14.654	596.95	593.	599.	596.95	58.25	556.	1504.
35.0	1.0000	14.755	14.659	582.97	601.	610.	582.97	58.25	557.	1505.
36.0	1.0000	14.755	14.665	564.95	610.	623.	564.95	58.25	558.	1506.
37.0	1.0000	14.755	14.674	536.93	530.	524.	536.93	51.66	548.	1481.
38.0	1.0000	14.755	14.676	533.20	532.	526.	533.20	51.66	549.	1482.
39.0	1.0000	14.755	14.680	520.03	539.	535.	520.03	51.66	549.	1482.
40.0	1.0000	14.755	14.685	503.34	547.	546.	503.34	51.66	550.	1483.
41.0	1.0000	14.755	14.693	472.60	470.	461.	472.60	46.18	542.	1456.
42.0	1.0000	14.755	14.694	469.16	472.	463.	469.16	46.18	542.	1456.
43.0	1.0000	14.755	14.697	457.39	478.	472.	457.39	46.18	543.	1457.
44.0	1.0000	14.755	14.701	442.41	485.	482.	442.41	46.18	543.	1458.
45.0	1.0000	14.755	14.706	421.78	423.	414.	421.78	41.43	537.	1454.
46.0	1.0000	14.755	14.707	418.56	425.	416.	418.56	41.43	538.	1454.
47.0	1.0000	14.755	14.709	408.12	430.	423.	408.12	41.43	538.	1455.
48.0	1.0000	14.755	14.712	394.90	436.	432.	394.90	41.43	539.	1455.
49.0	1.0000	14.755	14.715	381.68	386.	372.	381.68	37.90	534.	1423.
50.0	1.0000	14.755	14.716	378.92	387.	373.	378.92	37.90	534.	1423.
51.0	1.0000	14.755	14.718	369.26	392.	380.	369.26	37.90	535.	1423.
52.0	1.0000	14.755	14.720	357.34	398.	388.	357.34	37.90	535.	1424.
53.0	1.0000	14.755	14.723	344.33	351.	325.	344.33	34.65	531.	1360.
54.0	1.0000	14.755	14.723	341.87	352.	326.	341.87	34.65	532.	1360.
55.0	1.0000	14.755	14.725	333.03	356.	332.	333.03	34.65	532.	1361.
56.0	1.0000	14.755	14.727	322.22	361.	339.	322.22	34.65	532.	1361.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
29.0	97.6	0.	6252.	251.	1668.	673.	11970.	978.
30.0	97.4	15.00	6252.	251.	1658.	673.	11931.	962.
31.0	96.7	30.00	6252.	251.	1619.	673.	11533.	907.
32.0	95.9	40.00	6252.	251.	1570.	673.	9507.	842.
33.0	92.1	0.	5600.	230.	1576.	543.	10649.	878.
34.0	91.9	15.00	5600.	230.	1566.	543.	10607.	864.
35.0	91.3	30.00	5600.	230.	1529.	543.	10240.	816.
36.0	90.6	40.00	5600.	230.	1482.	543.	8425.	759.
37.0	82.1	0.	4701.	203.	1409.	401.	8495.	710.
38.0	81.9	15.00	4701.	203.	1399.	401.	8455.	699.
39.0	81.4	30.00	4701.	203.	1364.	401.	8142.	661.
40.0	80.9	40.00	4701.	203.	1320.	401.	6681.	616.
41.0	72.3	0.	3965.	181.	1240.	300.	6604.	560.
42.0	72.2	15.00	3965.	181.	1231.	300.	6569.	552.
43.0	71.8	30.00	3965.	181.	1200.	300.	6319.	523.
44.0	71.4	40.00	3965.	181.	1161.	300.	5171.	488.
45.0	64.6	0.	3456.	161.	1106.	229.	5258.	455.
46.0	64.5	15.00	3456.	161.	1098.	229.	5228.	448.
47.0	64.3	30.00	3456.	161.	1071.	229.	5018.	425.
48.0	64.0	40.00	3456.	161.	1036.	229.	4100.	398.
49.0	58.6	0.	3021.	147.	1001.	181.	4280.	378.
50.0	58.6	15.00	3021.	147.	994.	181.	4255.	373.
51.0	58.3	30.00	3021.	147.	969.	181.	4081.	354.
52.0	58.1	40.00	3021.	147.	937.	181.	3331.	332.
53.0	53.0	0.	2575.	133.	903.	143.	3447.	313.
54.0	53.0	15.00	2575.	133.	897.	143.	3426.	309.
55.0	52.8	30.00	2575.	133.	874.	143.	3279.	293.
56.0	52.6	40.00	2575.	133.	845.	143.	2671.	275.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
57.0	1.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
58.0	1.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
59.0	1.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
60.0	1.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
61.0	2.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
62.0	2.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
63.0	2.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
64.0	2.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
65.0	3.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
66.0	3.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
67.0	3.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
68.0	3.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
69.0	4.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
70.0	4.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
71.0	4.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
72.0	4.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
73.0	5.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
74.0	5.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
75.0	5.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
76.0	5.00	0.	0.15114	100.00	14.696	518.67	1.0000	14.932	521.05
77.0	1.00	0.	0.22670	150.00	14.696	518.67	1.0000	15.232	524.02
78.0	1.00	0.	0.22670	150.00	14.696	518.67	1.0000	15.232	524.02
79.0	1.00	0.	0.22670	150.00	14.696	518.67	1.0000	15.232	524.02
80.0	1.00	0.	0.22670	150.00	14.696	518.67	1.0000	15.232	524.02

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	W0GG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
57.0	96.46	54.33	800.0	62.99	100.2	124.0	33.95	668.2	1586.
58.0	96.46	54.33	800.0	62.99	100.2	124.0	33.95	668.2	1586.
59.0	96.46	54.33	800.0	62.99	100.2	124.0	33.95	668.2	1586.
60.0	96.46	54.33	800.0	62.99	100.2	124.0	33.95	668.2	1586.
61.0	88.62	49.42	771.6	57.95	95.2	121.0	31.05	592.6	1529.
62.0	88.62	49.42	771.6	57.95	95.2	121.0	31.05	592.6	1529.
63.0	88.62	49.42	771.6	57.95	95.2	121.0	31.05	592.6	1529.
64.0	88.62	49.42	771.6	57.95	95.2	121.0	31.05	592.6	1529.
65.0	78.18	42.79	736.3	51.42	90.2	117.2	27.04	501.8	1481.
66.0	78.18	42.79	736.3	51.42	90.2	117.2	27.04	501.8	1481.
67.0	78.18	42.79	736.3	51.42	90.2	117.2	27.04	501.8	1481.
68.0	78.18	42.79	736.3	51.42	90.2	117.2	27.04	501.8	1481.
69.0	69.47	37.32	705.3	45.99	85.2	113.8	23.66	429.2	1442.
70.0	69.47	37.32	705.3	45.99	85.2	113.8	23.66	429.2	1442.
71.0	69.47	37.32	705.3	45.99	85.2	113.8	23.66	429.2	1442.
72.0	69.47	37.32	705.3	45.99	85.2	113.8	23.66	429.2	1442.
73.0	62.03	32.98	678.8	41.26	80.2	110.5	20.89	370.8	1412.
74.0	62.03	32.98	678.8	41.26	80.2	110.5	20.89	370.8	1412.
75.0	62.03	32.98	678.8	41.26	80.2	110.5	20.89	370.8	1412.
76.0	62.03	32.98	678.8	41.26	80.2	110.5	20.89	370.8	1412.
77.0	98.11	55.41	804.5	64.12	100.5	124.2	34.47	678.9	1584.
78.0	98.11	55.41	804.5	64.12	100.5	124.2	34.47	678.9	1584.
79.0	98.11	55.41	804.5	64.12	100.5	124.2	34.47	678.9	1584.
80.0	98.11	55.41	804.5	64.12	100.5	124.2	34.47	678.9	1584.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	W0LU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
57.0	1.0000	14.932	14.817	638.51	658.	655.	638.51	63.99	562.	1508.
58.0	1.0000	14.932	14.818	634.09	660.	658.	634.09	63.99	563.	1508.
59.0	1.0000	14.932	14.824	618.27	669.	669.	618.27	63.99	563.	1509.
60.0	1.0000	14.932	14.832	598.08	678.	683.	598.08	63.99	565.	1510.
61.0	1.0000	14.932	14.830	603.69	624.	603.	603.69	58.88	558.	1504.
62.0	1.0000	14.932	14.831	599.52	627.	606.	599.52	58.88	558.	1504.
63.0	1.0000	14.932	14.837	584.57	635.	616.	584.57	58.88	559.	1505.
64.0	1.0000	14.932	14.843	565.23	643.	629.	565.23	58.88	560.	1506.
65.0	1.0000	14.932	14.851	540.69	562.	528.	540.69	52.22	551.	1480.
66.0	1.0000	14.932	14.853	536.76	564.	531.	536.76	52.22	551.	1480.
67.0	1.0000	14.932	14.857	522.89	571.	540.	522.89	52.22	552.	1481.
68.0	1.0000	14.932	14.862	504.90	578.	552.	504.90	52.22	553.	1482.
69.0	1.0000	14.932	14.870	476.68	498.	465.	476.68	46.69	544.	1455.
70.0	1.0000	14.932	14.871	473.07	500.	468.	473.07	46.69	544.	1455.
71.0	1.0000	14.932	14.875	460.11	505.	477.	460.11	46.69	545.	1456.
72.0	1.0000	14.932	14.879	444.20	510.	486.	444.20	46.69	546.	1456.
73.0	1.0000	14.932	14.883	425.29	446.	418.	425.29	41.89	540.	1454.
74.0	1.0000	14.932	14.884	421.93	447.	420.	421.93	41.89	540.	1454.
75.0	1.0000	14.932	14.887	411.62	452.	428.	411.62	41.89	540.	1454.
76.0	1.0000	14.932	14.889	398.88	457.	437.	398.88	41.89	541.	1455.
77.0	1.0000	15.232	15.115	645.17	681.	666.	645.17	65.15	566.	1507.
78.0	1.0000	15.232	15.117	640.45	683.	669.	640.45	65.15	566.	1508.
79.0	1.0000	15.232	15.124	623.45	690.	681.	623.45	65.15	568.	1509.
80.0	1.0000	15.232	15.131	603.66	699.	695.	603.66	65.15	569.	1510.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
57.0	97.0	0.	6312.	506.	3350.	680.	12021.	1092.
58.0	96.7	15.00	6312.	506.	3327.	680.	11955.	1073.
59.0	96.1	30.00	6312.	506.	3244.	680.	11472.	1007.
60.0	95.5	40.00	6312.	506.	3138.	680.	9348.	930.
61.0	91.8	0.	5652.	465.	3167.	552.	10594.	985.
62.0	91.6	15.00	5652.	465.	3145.	552.	10531.	968.
63.0	91.1	30.00	5652.	465.	3067.	552.	10087.	910.
64.0	90.7	40.00	5652.	465.	2965.	552.	8195.	841.
65.0	82.5	0.	4742.	410.	2837.	407.	8263.	801.
66.0	82.4	15.00	4742.	410.	2816.	407.	8203.	787.
67.0	82.0	30.00	4742.	410.	2743.	407.	7822.	741.
68.0	81.5	40.00	4742.	410.	2649.	407.	6311.	685.
69.0	73.2	0.	3998.	365.	2501.	305.	6170.	629.
70.0	73.1	15.00	3998.	365.	2482.	305.	6116.	619.
71.0	72.7	30.00	3998.	365.	2414.	305.	5801.	582.
72.0	72.3	40.00	3998.	365.	2331.	305.	4645.	538.
73.0	65.7	0.	3484.	326.	2231.	232.	4665.	504.
74.0	65.6	15.00	3484.	326.	2214.	232.	4617.	495.
75.0	65.3	30.00	3484.	326.	2160.	232.	4446.	468.
76.0	64.9	40.00	3484.	326.	2093.	232.	3641.	436.
77.0	98.6	0.	6424.	772.	5077.	702.	11138.	1168.
78.0	98.4	15.00	6424.	772.	5040.	702.	11038.	1144.
79.0	97.6	30.00	6424.	772.	4906.	702.	10454.	1066.
80.0	96.8	40.00	6424.	772.	4751.	702.	8517.	980.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PS	ALT	MO VOKNTS	PO	TO	ETARGG	P2GG	T2
81.0	1.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
82.0	1.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
83.0	1.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
84.0	1.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
85.0	2.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
86.0	2.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
87.0	2.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
88.0	2.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
89.0	3.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
90.0	3.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
91.0	3.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
92.0	3.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
93.0	4.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
94.0	4.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
95.0	4.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
96.0	4.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
97.0	5.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
98.0	5.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
99.0	5.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
100.0	5.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
101.0	6.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
102.0	6.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
103.0	6.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
104.0	6.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
105.0	7.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
106.0	7.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
107.0	7.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10
108.0	7.00	1000. 0.	0.	14.173	515.10	1.0000	14.173	515.10

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
81.0	92.08	51.56	791.0	60.08	99.7	123.5	32.44	661.9	1578.
82.0	92.08	51.56	791.0	60.08	99.7	123.5	32.44	661.9	1578.
83.0	92.08	51.56	791.0	60.08	99.7	123.5	32.44	661.9	1578.
84.0	92.08	51.56	791.0	60.08	99.7	123.5	32.44	661.9	1578.
85.0	84.60	46.91	762.9	55.28	94.7	120.4	29.66	585.9	1522.
86.0	84.60	46.91	762.9	55.28	94.7	120.4	29.66	585.9	1522.
87.0	84.60	46.91	762.9	55.28	94.7	120.4	29.66	585.9	1522.
88.0	84.60	46.91	762.9	55.28	94.7	120.4	29.66	585.9	1522.
89.0	74.63	40.61	728.0	49.05	89.7	116.7	25.84	495.3	1475.
90.0	74.63	40.61	728.0	49.05	89.7	116.7	25.84	495.3	1475.
91.0	74.63	40.61	728.0	49.05	89.7	116.7	25.84	495.3	1475.
92.0	74.63	40.61	728.0	49.05	89.7	116.7	25.84	495.3	1475.
93.0	66.31	35.42	697.3	43.87	84.7	113.3	22.62	423.6	1438.
94.0	66.31	35.42	697.3	43.87	84.7	113.3	22.62	423.6	1438.
95.0	66.31	35.42	697.3	43.87	84.7	113.3	22.62	423.6	1438.
96.0	66.31	35.42	697.3	43.87	84.7	113.3	22.62	423.6	1438.
97.0	59.20	31.30	671.1	39.36	79.7	110.0	19.96	366.8	1409.
98.0	59.20	31.30	671.1	39.36	79.7	110.0	19.96	366.8	1409.
99.0	59.20	31.30	671.1	39.36	79.7	110.0	19.96	366.8	1409.
100.0	59.20	31.30	671.1	39.36	79.7	110.0	19.96	366.8	1409.
101.0	53.81	28.19	649.2	36.02	74.7	107.0	17.87	324.1	1386.
102.0	53.81	28.19	649.2	36.02	74.7	107.0	17.87	324.1	1386.
103.0	53.81	28.19	649.2	36.02	74.7	107.0	17.87	324.1	1386.
104.0	53.81	28.19	649.2	36.02	74.7	107.0	17.87	324.1	1386.
105.0	48.87	25.50	628.4	32.96	69.8	103.7	15.94	286.5	1362.
106.0	48.87	25.50	628.4	32.96	69.8	103.7	15.94	286.5	1362.
107.0	48.87	25.50	628.4	32.96	69.8	103.7	15.94	286.5	1362.
108.0	48.87	25.50	628.4	32.96	69.8	103.7	15.94	286.5	1362.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
81.0	1.0000	14.173	14.060	615.37	602.	643.	615.37	61.03	555.	1497.
82.0	1.0000	14.173	14.062	611.88	605.	647.	611.88	61.03	555.	1497.
83.0	1.0000	14.173	14.067	599.25	614.	658.	599.25	61.03	556.	1498.
84.0	1.0000	14.173	14.073	582.80	624.	672.	582.80	61.03	557.	1499.
85.0	1.0000	14.173	14.073	581.45	568.	593.	581.45	56.16	551.	1495.
86.0	1.0000	14.173	14.075	578.02	570.	596.	578.02	56.16	551.	1495.
87.0	1.0000	14.173	14.079	565.80	578.	606.	565.80	56.16	552.	1495.
88.0	1.0000	14.173	14.085	549.93	587.	619.	549.93	56.16	553.	1496.
89.0	1.0000	14.173	14.094	520.75	507.	520.	520.75	49.81	544.	1472.
90.0	1.0000	14.173	14.095	517.48	509.	523.	517.48	49.81	544.	1472.
91.0	1.0000	14.173	14.099	505.91	516.	532.	505.91	49.81	544.	1473.
92.0	1.0000	14.173	14.103	491.28	523.	543.	491.28	49.81	545.	1474.
93.0	1.0000	14.173	14.112	459.84	446.	458.	459.84	44.53	537.	1446.
94.0	1.0000	14.173	14.113	456.84	448.	460.	456.84	44.53	538.	1446.
95.0	1.0000	14.173	14.116	446.38	454.	469.	446.38	44.53	538.	1447.
96.0	1.0000	14.173	14.119	433.21	460.	478.	433.21	44.53	539.	1447.
97.0	1.0000	14.173	14.125	410.96	398.	411.	410.96	39.95	533.	1444.
98.0	1.0000	14.173	14.126	408.28	400.	413.	408.28	39.95	533.	1444.
99.0	1.0000	14.173	14.128	398.95	405.	420.	398.95	39.95	533.	1445.
100.0	1.0000	14.173	14.131	387.27	411.	429.	387.27	39.95	534.	1445.
101.0	1.0000	14.173	14.134	372.57	360.	368.	372.57	36.55	530.	1411.
102.0	1.0000	14.173	14.134	370.16	362.	370.	370.16	36.55	530.	1411.
103.0	1.0000	14.173	14.136	361.66	366.	376.	361.66	36.55	530.	1411.
104.0	1.0000	14.173	14.138	351.10	372.	384.	351.10	36.55	531.	1412.
105.0	1.0000	14.173	14.141	336.88	325.	321.	336.88	33.41	527.	1346.
106.0	1.0000	14.173	14.141	334.65	327.	323.	334.65	33.41	527.	1346.
107.0	1.0000	14.173	14.143	326.90	331.	329.	326.90	33.41	527.	1346.
108.0	1.0000	14.173	14.145	317.32	335.	336.	317.32	33.41	528.	1347.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
81.0	99.7	0.	6003.	0.	0.	644.	11250.	884.
82.0	99.4	15.00	6003.	0.	0.	644.	11220.	871.
83.0	98.6	30.00	6003.	0.	0.	644.	10877.	823.
84.0	97.7	40.00	6003.	0.	0.	644.	9001.	767.
85.0	93.9	0.	5379.	0.	0.	521.	9974.	788.
86.0	93.7	15.00	5379.	0.	0.	521.	9944.	776.
87.0	93.0	30.00	5379.	0.	0.	521.	9629.	734.
88.0	92.3	40.00	5379.	0.	0.	521.	7957.	685.
89.0	83.9	0.	4516.	0.	0.	384.	7955.	630.
90.0	83.7	15.00	4516.	0.	0.	384.	7924.	620.
91.0	83.2	30.00	4516.	0.	0.	384.	7656.	588.
92.0	82.6	40.00	4516.	0.	0.	384.	6314.	549.
93.0	74.1	0.	3811.	0.	0.	288.	6193.	490.
94.0	74.0	15.00	3811.	0.	0.	288.	6166.	482.
95.0	73.6	30.00	3811.	0.	0.	288.	5951.	458.
96.0	73.1	40.00	3811.	0.	0.	288.	4902.	428.
97.0	66.3	0.	3322.	0.	0.	220.	4941.	390.
98.0	66.2	15.00	3322.	0.	0.	220.	4920.	385.
99.0	65.9	30.00	3322.	0.	0.	220.	4748.	365.
100.0	65.6	40.00	3322.	0.	0.	220.	3912.	342.
101.0	60.2	0.	2901.	0.	0.	174.	4054.	320.
102.0	60.1	15.00	2901.	0.	0.	174.	4037.	316.
103.0	59.9	30.00	2901.	0.	0.	174.	3895.	300.
104.0	59.6	40.00	2901.	0.	0.	174.	3209.	282.
105.0	54.5	0.	2468.	0.	0.	137.	3303.	261.
106.0	54.4	15.00	2468.	0.	0.	137.	3288.	258.
107.0	54.2	30.00	2468.	0.	0.	137.	3171.	245.
108.0	54.0	40.00	2468.	0.	0.	137.	2611.	230.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
109.0	1.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
110.0	1.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
111.0	1.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
112.0	1.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
113.0	2.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
114.0	2.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
115.0	2.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
116.0	2.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
117.0	3.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
118.0	3.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
119.0	3.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
120.0	3.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
121.0	4.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
122.0	4.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
123.0	4.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
124.0	4.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
125.0	5.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
126.0	5.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
127.0	5.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
128.0	5.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
129.0	6.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
130.0	6.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
131.0	6.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
132.0	6.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
133.0	7.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
134.0	7.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
135.0	7.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70
136.0	7.00	1000.	0.07583	50.00	14.173	515.10	1.0000	14.230	515.70

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
109.0	92.40	51.77	791.9	60.30	99.7	123.5	32.55	663.6	1578.
110.0	92.40	51.77	791.9	60.30	99.7	123.5	32.55	663.6	1578.
111.0	92.40	51.77	791.9	60.30	99.7	123.5	32.55	663.6	1578.
112.0	92.40	51.77	791.9	60.30	99.7	123.5	32.55	663.6	1578.
113.0	84.89	47.10	763.8	55.48	94.7	120.5	29.76	587.2	1522.
114.0	84.89	47.10	763.8	55.48	94.7	120.5	29.76	587.2	1522.
115.0	84.89	47.10	763.8	55.48	94.7	120.5	29.76	587.2	1522.
116.0	84.89	47.10	763.8	55.48	94.7	120.5	29.76	587.2	1522.
117.0	74.89	40.78	728.9	49.22	89.7	116.7	25.91	496.5	1474.
118.0	74.89	40.78	728.9	49.22	89.7	116.7	25.91	496.5	1474.
119.0	74.89	40.78	728.9	49.22	89.7	116.7	25.91	496.5	1474.
120.0	74.89	40.78	728.9	49.22	89.7	116.7	25.91	496.5	1474.
121.0	66.54	35.56	698.1	44.03	84.8	113.3	22.68	424.6	1436.
122.0	66.54	35.56	698.1	44.03	84.8	113.3	22.68	424.6	1436.
123.0	66.54	35.56	698.1	44.03	84.8	113.3	22.68	424.6	1436.
124.0	66.54	35.56	698.1	44.03	84.8	113.3	22.68	424.6	1436.
125.0	59.41	31.43	671.9	39.51	79.8	110.1	20.02	367.6	1407.
126.0	59.41	31.43	671.9	39.51	79.8	110.1	20.02	367.6	1407.
127.0	59.41	31.43	671.9	39.51	79.8	110.1	20.02	367.6	1407.
128.0	59.41	31.43	671.9	39.51	79.8	110.1	20.02	367.6	1407.
129.0	54.00	28.30	649.9	36.15	74.8	107.0	17.92	324.7	1384.
130.0	54.00	28.30	649.9	36.15	74.8	107.0	17.92	324.7	1384.
131.0	54.00	28.30	649.9	36.15	74.8	107.0	17.92	324.7	1384.
132.0	54.00	28.30	649.9	36.15	74.8	107.0	17.92	324.7	1384.
133.0	49.03	25.61	629.2	33.08	69.8	103.7	15.99	287.0	1360.
134.0	49.03	25.61	629.2	33.08	69.8	103.7	15.99	287.0	1360.
135.0	49.03	25.61	629.2	33.08	69.8	103.7	15.99	287.0	1360.
136.0	49.03	25.61	629.2	33.08	69.8	103.7	15.99	287.0	1360.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
109.0	1.0000	14.230	14.118	615.25	621.	645.	615.25	61.26	556.	1497.
110.0	1.0000	14.230	14.119	611.40	624.	649.	611.40	61.26	556.	1497.
111.0	1.0000	14.230	14.125	597.31	633.	660.	597.31	61.26	557.	1498.
112.0	1.0000	14.230	14.132	579.18	642.	674.	579.18	61.26	558.	1500.
113.0	1.0000	14.230	14.131	581.45	588.	594.	581.45	56.37	552.	1494.
114.0	1.0000	14.230	14.132	577.64	591.	597.	577.64	56.37	552.	1494.
115.0	1.0000	14.230	14.137	564.11	599.	608.	564.11	56.37	553.	1494.
116.0	1.0000	14.230	14.143	546.66	608.	621.	546.66	56.37	554.	1495.
117.0	1.0000	14.230	14.152	519.55	528.	522.	519.55	49.99	545.	1471.
118.0	1.0000	14.230	14.153	515.93	530.	524.	515.93	49.99	545.	1471.
119.0	1.0000	14.230	14.157	503.18	537.	533.	503.18	49.99	545.	1472.
120.0	1.0000	14.230	14.162	487.03	545.	545.	487.03	49.99	546.	1473.
121.0	1.0000	14.230	14.170	457.27	469.	459.	457.27	44.70	538.	1446.
122.0	1.0000	14.230	14.171	453.98	470.	462.	453.98	44.70	538.	1446.
123.0	1.0000	14.230	14.174	442.58	476.	470.	442.58	44.70	539.	1447.
124.0	1.0000	14.230	14.178	428.08	483.	480.	428.08	44.70	540.	1448.
125.0	1.0000	14.230	14.183	408.12	422.	413.	408.12	40.09	534.	1444.
126.0	1.0000	14.230	14.184	405.19	423.	415.	405.19	40.09	534.	1445.
127.0	1.0000	14.230	14.186	394.91	429.	422.	394.91	40.09	534.	1445.
128.0	1.0000	14.230	14.189	382.11	435.	431.	382.11	40.09	535.	1445.
129.0	1.0000	14.230	14.192	369.32	384.	370.	369.32	36.68	531.	1413.
130.0	1.0000	14.230	14.192	366.65	386.	372.	366.65	36.68	531.	1413.
131.0	1.0000	14.230	14.194	357.31	391.	378.	357.31	36.68	531.	1414.
132.0	1.0000	14.230	14.196	345.73	396.	386.	345.73	36.68	531.	1414.
133.0	1.0000	14.230	14.199	333.17	350.	324.	333.17	33.53	528.	1351.
134.0	1.0000	14.230	14.199	330.80	351.	325.	330.80	33.53	528.	1351.
135.0	1.0000	14.230	14.201	322.25	355.	330.	322.25	33.53	528.	1351.
136.0	1.0000	14.230	14.203	311.78	360.	338.	311.78	33.53	529.	1352.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
109.0	97.3	0.	6022.	243.	1614.	648.	11544.	943.
110.0	97.1	15.00	6022.	243.	1604.	648.	11505.	928.
111.0	96.3	30.00	6022.	243.	1567.	648.	11122.	875.
112.0	95.6	40.00	6022.	243.	1519.	648.	9167.	812.
113.0	91.8	0.	5396.	223.	1525.	524.	10270.	847.
114.0	91.6	15.00	5396.	223.	1515.	524.	10229.	833.
115.0	91.0	30.00	5396.	223.	1480.	524.	9875.	787.
116.0	90.3	40.00	5396.	223.	1434.	524.	8125.	732.
117.0	81.8	0.	4529.	197.	1363.	386.	8192.	685.
118.0	81.6	15.00	4529.	197.	1353.	386.	8153.	674.
119.0	81.2	30.00	4529.	197.	1320.	386.	7851.	638.
120.0	80.6	40.00	4529.	197.	1278.	386.	6442.	594.
121.0	72.0	0.	3821.	175.	1200.	289.	6368.	540.
122.0	71.9	15.00	3821.	175.	1191.	289.	6334.	532.
123.0	71.6	30.00	3821.	175.	1161.	289.	6093.	504.
124.0	71.2	40.00	3821.	175.	1123.	289.	4985.	471.
125.0	64.4	0.	3331.	156.	1071.	221.	5069.	439.
126.0	64.3	15.00	3331.	156.	1063.	221.	5041.	432.
127.0	64.1	30.00	3331.	156.	1036.	221.	4837.	410.
128.0	63.8	40.00	3331.	156.	1002.	221.	3952.	384.
129.0	58.4	0.	2912.	142.	969.	175.	4126.	365.
130.0	58.3	15.00	2912.	142.	962.	175.	4102.	360.
131.0	58.1	30.00	2912.	142.	937.	175.	3934.	342.
132.0	57.9	40.00	2912.	142.	907.	175.	3210.	320.
133.0	52.8	0.	2482.	129.	874.	138.	3323.	302.
134.0	52.8	15.00	2482.	129.	868.	138.	3302.	298.
135.0	52.6	30.00	2482.	129.	845.	138.	3160.	283.
136.0	52.4	40.00	2482.	129.	818.	138.	2574.	265.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
137.0	1.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
138.0	1.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
139.0	1.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
140.0	1.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
141.0	2.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
142.0	2.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
143.0	2.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
144.0	2.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
145.0	3.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
146.0	3.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
147.0	3.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
148.0	3.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
149.0	4.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
150.0	4.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
151.0	4.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
152.0	4.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
153.0	5.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
154.0	5.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
155.0	5.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
156.0	5.00	1000.	0.15165	100.00	14.173	515.10	1.0000	14.402	517.48
157.0	1.00	1000.	0.22748	150.00	14.173	515.10	1.0000	14.693	520.45
158.0	1.00	1000.	0.22748	150.00	14.173	515.10	1.0000	14.693	520.45
159.0	1.00	1000.	0.22748	150.00	14.173	515.10	1.0000	14.693	520.45
160.0	1.00	1000.	0.22748	150.00	14.173	515.10	1.0000	14.693	520.45

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	W0GG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
137.0	93.35	52.40	794.6	60.96	99.9	123.6	32.85	668.8	1577.
138.0	93.35	52.40	794.6	60.96	99.9	123.6	32.85	668.8	1577.
139.0	93.35	52.40	794.6	60.96	99.9	123.6	32.85	668.8	1577.
140.0	93.35	52.40	794.6	60.96	99.9	123.6	32.85	668.8	1577.
141.0	85.77	47.67	766.4	56.09	94.9	120.6	30.04	589.5	1519.
142.0	85.77	47.67	766.4	56.09	94.9	120.6	30.04	589.5	1519.
143.0	85.77	47.67	766.4	56.09	94.9	120.6	30.04	589.5	1519.
144.0	85.77	47.67	766.4	56.09	94.9	120.6	30.04	589.5	1519.
145.0	75.66	41.27	731.4	49.77	89.9	116.8	26.15	500.2	1472.
146.0	75.66	41.27	731.4	49.77	89.9	116.8	26.15	500.2	1472.
147.0	75.66	41.27	731.4	49.77	89.9	116.8	26.15	500.2	1472.
148.0	75.66	41.27	731.4	49.77	89.9	116.8	26.15	500.2	1472.
149.0	67.23	35.99	700.5	44.52	84.9	113.4	22.89	427.9	1433.
150.0	67.23	35.99	700.5	44.52	84.9	113.4	22.89	427.9	1433.
151.0	67.23	35.99	700.5	44.52	84.9	113.4	22.89	427.9	1433.
152.0	67.23	35.99	700.5	44.52	84.9	113.4	22.89	427.9	1433.
153.0	60.03	31.81	674.2	39.94	79.9	110.1	20.20	369.7	1403.
154.0	60.03	31.81	674.2	39.94	79.9	110.1	20.20	369.7	1403.
155.0	60.03	31.81	674.2	39.94	79.9	110.1	20.20	369.7	1403.
156.0	60.03	31.81	674.2	39.94	79.9	110.1	20.20	369.7	1403.
157.0	94.97	53.45	799.1	62.07	100.2	123.8	33.36	677.3	1575.
158.0	94.97	53.45	799.1	62.07	100.2	123.8	33.36	677.3	1575.
159.0	94.97	53.45	799.1	62.07	100.2	123.8	33.36	677.3	1575.
160.0	94.97	53.45	799.1	62.07	100.2	123.8	33.36	677.3	1575.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	W0LU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
137.0	1.0000	14.402	14.290	617.94	656.	653.	617.94	61.93	558.	1498.
138.0	1.0000	14.402	14.292	613.67	658.	656.	613.67	61.93	559.	1498.
139.0	1.0000	14.402	14.298	598.35	667.	667.	598.35	61.93	560.	1499.
140.0	1.0000	14.402	14.305	578.83	676.	681.	578.83	61.93	561.	1500.
141.0	1.0000	14.402	14.303	584.22	622.	601.	584.22	56.99	554.	1493.
142.0	1.0000	14.402	14.305	580.18	625.	603.	580.18	56.99	554.	1493.
143.0	1.0000	14.402	14.310	565.72	633.	614.	565.72	56.99	555.	1494.
144.0	1.0000	14.402	14.316	546.95	641.	627.	546.95	56.99	556.	1495.
145.0	1.0000	14.402	14.324	523.26	561.	527.	523.26	50.55	547.	1470.
146.0	1.0000	14.402	14.325	519.45	563.	529.	519.45	50.55	547.	1470.
147.0	1.0000	14.402	14.329	505.98	569.	538.	505.98	50.55	548.	1471.
148.0	1.0000	14.402	14.335	488.57	576.	550.	488.57	50.55	549.	1472.
149.0	1.0000	14.402	14.342	461.29	497.	464.	461.29	45.18	541.	1445.
150.0	1.0000	14.402	14.343	457.79	498.	466.	457.79	45.18	541.	1445.
151.0	1.0000	14.402	14.347	445.27	503.	475.	445.27	45.18	541.	1446.
152.0	1.0000	14.402	14.350	429.82	508.	484.	429.82	45.18	542.	1446.
153.0	1.0000	14.402	14.355	411.54	444.	417.	411.54	40.53	536.	1444.
154.0	1.0000	14.402	14.356	408.44	445.	419.	408.44	40.53	536.	1444.
155.0	1.0000	14.402	14.358	399.00	450.	426.	399.00	40.53	537.	1444.
156.0	1.0000	14.402	14.361	386.14	456.	435.	386.14	40.53	537.	1445.
157.0	1.0000	14.693	14.580	624.34	679.	664.	624.34	63.05	562.	1497.
158.0	1.0000	14.693	14.582	619.80	681.	667.	619.80	63.05	563.	1498.
159.0	1.0000	14.693	14.588	603.35	688.	679.	603.35	63.05	564.	1499.
160.0	1.0000	14.693	14.595	584.44	697.	693.	584.44	63.05	565.	1500.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
137.0	96.6	0.	6080.	490.	3242.	659.	11590.	1054.
138.0	96.4	15.00	6080.	490.	3220.	659.	11526.	1035.
139.0	95.8	30.00	6080.	490.	3139.	659.	11060.	972.
140.0	95.2	40.00	6080.	490.	3037.	659.	9012.	897.
141.0	91.5	0.	5445.	450.	3065.	531.	10212.	950.
142.0	91.3	15.00	5445.	450.	3044.	531.	10151.	934.
143.0	90.8	30.00	5445.	450.	2968.	531.	9723.	878.
144.0	90.3	40.00	5445.	450.	2870.	531.	7898.	811.
145.0	82.2	0.	4569.	397.	2745.	392.	7963.	773.
146.0	82.1	15.00	4569.	397.	2725.	392.	7904.	760.
147.0	81.7	30.00	4569.	397.	2655.	392.	7536.	715.
148.0	81.2	40.00	4569.	397.	2563.	392.	6080.	661.
149.0	73.0	0.	3854.	353.	2420.	294.	5943.	607.
150.0	72.9	15.00	3854.	353.	2402.	294.	5891.	597.
151.0	72.5	30.00	3854.	353.	2336.	294.	5588.	561.
152.0	72.1	40.00	3854.	353.	2255.	294.	4472.	519.
153.0	65.5	0.	3358.	315.	2159.	224.	4491.	486.
154.0	65.4	15.00	3358.	315.	2143.	224.	4454.	478.
155.0	65.0	30.00	3358.	315.	2093.	224.	4292.	453.
156.0	64.7	40.00	3358.	315.	2026.	224.	3514.	421.
157.0	98.3	0.	6176.	748.	4913.	678.	10726.	1126.
158.0	98.1	15.00	6176.	748.	4878.	678.	10629.	1104.
159.0	97.3	30.00	6176.	748.	4748.	678.	10066.	1028.
160.0	96.4	40.00	6176.	748.	4599.	678.	8220.	946.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PS	ALT	MO VOKNTS	P0	TO ETARGG	P2GG	T2
161.0	1.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
162.0	1.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
163.0	1.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
164.0	1.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
165.0	2.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
166.0	2.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
167.0	2.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
168.0	2.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
169.0	3.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
170.0	3.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
171.0	3.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
172.0	3.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
173.0	4.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
174.0	4.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
175.0	4.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
176.0	4.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
177.0	5.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
178.0	5.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
179.0	5.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
180.0	5.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
181.0	6.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
182.0	6.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
183.0	6.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
184.0	6.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
185.0	7.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
186.0	7.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
187.0	7.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54
188.0	7.00	2000. 0.	0.	13.664	511.54 1.0000	13.664	511.54

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
161.0	89.09	49.71	785.6	58.14	99.3	123.0	31.37	659.4	1568.
162.0	89.09	49.71	785.6	58.14	99.3	123.0	31.37	659.4	1568.
163.0	89.09	49.71	785.6	58.14	99.3	123.0	31.37	659.4	1568.
164.0	89.09	49.71	785.6	58.14	99.3	123.0	31.37	659.4	1568.
165.0	81.85	45.23	757.7	53.49	94.3	120.0	28.68	584.0	1513.
166.0	81.85	45.23	757.7	53.49	94.3	120.0	28.68	584.0	1513.
167.0	81.85	45.23	757.7	53.49	94.3	120.0	28.68	584.0	1513.
168.0	81.85	45.23	757.7	53.49	94.3	120.0	28.68	584.0	1513.
169.0	72.20	39.16	723.1	47.45	89.4	116.3	24.98	493.7	1466.
170.0	72.20	39.16	723.1	47.45	89.4	116.3	24.98	493.7	1466.
171.0	72.20	39.16	723.1	47.45	89.4	116.3	24.98	493.7	1466.
172.0	72.20	39.16	723.1	47.45	89.4	116.3	24.98	493.7	1466.
173.0	64.15	34.15	692.6	42.45	84.4	112.9	21.87	422.2	1428.
174.0	64.15	34.15	692.6	42.45	84.4	112.9	21.87	422.2	1428.
175.0	64.15	34.15	692.6	42.45	84.4	112.9	21.87	422.2	1428.
176.0	64.15	34.15	692.6	42.45	84.4	112.9	21.87	422.2	1428.
177.0	57.28	30.18	666.5	38.09	79.5	109.6	19.30	365.7	1400.
178.0	57.28	30.18	666.5	38.09	79.5	109.6	19.30	365.7	1400.
179.0	57.28	30.18	666.5	38.09	79.5	109.6	19.30	365.7	1400.
180.0	57.28	30.18	666.5	38.09	79.5	109.6	19.30	365.7	1400.
181.0	52.07	27.18	644.7	34.85	74.5	106.6	17.28	323.0	1377.
182.0	52.07	27.18	644.7	34.85	74.5	106.6	17.28	323.0	1377.
183.0	52.07	27.18	644.7	34.85	74.5	106.6	17.28	323.0	1377.
184.0	52.07	27.18	644.7	34.85	74.5	106.6	17.28	323.0	1377.
185.0	47.28	24.59	624.1	31.89	69.5	103.3	15.41	285.3	1353.
186.0	47.28	24.59	624.1	31.89	69.5	103.3	15.41	285.3	1353.
187.0	47.28	24.59	624.1	31.89	69.5	103.3	15.41	285.3	1353.
188.0	47.28	24.59	624.1	31.89	69.5	103.3	15.41	285.3	1353.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	W0LU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
161.0	1.0000	13.664	13.556	595.34	600.	641.	595.34	59.05	551.	1486.
162.0	1.0000	13.664	13.558	591.95	603.	644.	591.95	59.05	552.	1486.
163.0	1.0000	13.664	13.562	579.74	612.	655.	579.74	59.05	552.	1487.
164.0	1.0000	13.664	13.568	563.83	621.	669.	563.83	59.05	553.	1489.
165.0	1.0000	13.664	13.569	562.53	566.	591.	562.53	54.34	547.	1484.
166.0	1.0000	13.664	13.570	559.22	568.	594.	559.22	54.34	547.	1484.
167.0	1.0000	13.664	13.574	547.38	576.	604.	547.38	54.34	548.	1485.
168.0	1.0000	13.664	13.580	532.04	585.	617.	532.04	54.34	549.	1486.
169.0	1.0000	13.664	13.589	503.77	505.	518.	503.77	48.20	540.	1462.
170.0	1.0000	13.664	13.590	500.61	507.	521.	500.61	48.20	540.	1462.
171.0	1.0000	13.664	13.594	489.42	514.	530.	489.42	48.20	541.	1462.
172.0	1.0000	13.664	13.598	475.27	522.	541.	475.27	48.20	541.	1463.
173.0	1.0000	13.664	13.606	444.86	445.	457.	444.86	43.09	534.	1436.
174.0	1.0000	13.664	13.607	441.96	447.	459.	441.96	43.09	534.	1436.
175.0	1.0000	13.664	13.610	431.84	452.	467.	431.84	43.09	534.	1437.
176.0	1.0000	13.664	13.613	419.10	459.	477.	419.10	43.09	535.	1437.
177.0	1.0000	13.664	13.619	397.57	397.	410.	397.57	38.66	529.	1434.
178.0	1.0000	13.664	13.619	394.99	398.	412.	394.99	38.66	529.	1434.
179.0	1.0000	13.664	13.621	385.96	403.	419.	385.96	38.66	530.	1435.
180.0	1.0000	13.664	13.624	374.66	409.	428.	374.66	38.66	530.	1435.
181.0	1.0000	13.664	13.627	360.42	359.	367.	360.42	35.36	526.	1401.
182.0	1.0000	13.664	13.627	358.09	361.	369.	358.09	35.36	526.	1401.
183.0	1.0000	13.664	13.629	349.87	365.	375.	349.87	35.36	526.	1402.
184.0	1.0000	13.664	13.631	339.65	370.	383.	339.65	35.36	527.	1402.
185.0	1.0000	13.664	13.634	325.90	324.	320.	325.90	32.32	523.	1337.
186.0	1.0000	13.664	13.634	323.75	326.	322.	323.75	32.32	524.	1337.
187.0	1.0000	13.664	13.636	316.26	330.	327.	316.26	32.32	524.	1337.
188.0	1.0000	13.664	13.637	306.98	334.	334.	306.98	32.32	524.	1337.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
161.0	99.3	0.	5781.	0.	0.	621.	10846.	853.
162.0	99.1	15.00	5781.	0.	0.	621.	10817.	839.
163.0	98.3	30.00	5781.	0.	0.	621.	10485.	794.
164.0	97.4	40.00	5781.	0.	0.	621.	8677.	739.
165.0	93.5	0.	5182.	0.	0.	502.	9616.	760.
166.0	93.3	15.00	5182.	0.	0.	502.	9587.	748.
167.0	92.7	30.00	5182.	0.	0.	502.	9283.	708.
168.0	92.0	40.00	5182.	0.	0.	502.	7671.	660.
169.0	83.6	0.	4350.	0.	0.	370.	7668.	607.
170.0	83.4	15.00	4350.	0.	0.	370.	7639.	598.
171.0	82.9	30.00	4350.	0.	0.	370.	7380.	566.
172.0	82.3	40.00	4350.	0.	0.	370.	6087.	529.
173.0	73.9	0.	3672.	0.	0.	277.	5970.	472.
174.0	73.7	15.00	3672.	0.	0.	277.	5944.	465.
175.0	73.3	30.00	3672.	0.	0.	277.	5737.	441.
176.0	72.9	40.00	3672.	0.	0.	277.	4726.	412.
177.0	66.1	0.	3201.	0.	0.	212.	4763.	376.
178.0	66.0	15.00	3201.	0.	0.	212.	4743.	371.
179.0	65.7	30.00	3201.	0.	0.	212.	4577.	352.
180.0	65.3	40.00	3201.	0.	0.	212.	3771.	330.
181.0	60.0	0.	2796.	0.	0.	167.	3908.	309.
182.0	59.9	15.00	2796.	0.	0.	167.	3891.	304.
183.0	59.7	30.00	2796.	0.	0.	167.	3754.	289.
184.0	59.4	40.00	2796.	0.	0.	167.	3093.	271.
185.0	54.3	0.	2379.	0.	0.	132.	3184.	252.
186.0	54.2	15.00	2379.	0.	0.	132.	3169.	248.
187.0	54.0	30.00	2379.	0.	0.	132.	3056.	236.
188.0	53.8	40.00	2379.	0.	0.	132.	2517.	222.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
189.0	1.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
190.0	1.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
191.0	1.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
192.0	1.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
193.0	2.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
194.0	2.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
195.0	2.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
196.0	2.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
197.0	3.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
198.0	3.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
199.0	3.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
200.0	3.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
201.0	4.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
202.0	4.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
203.0	4.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
204.0	4.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
205.0	5.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
206.0	5.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
207.0	5.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
208.0	5.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
209.0	6.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
210.0	6.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
211.0	6.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
212.0	6.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
213.0	7.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
214.0	7.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
215.0	7.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13
216.0	7.00	2000.	0.07609	50.00	13.664	511.54	1.0000	13.720	512.13

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
189.0	89.40	49.91	786.5	58.34	99.4	123.1	31.47	661.4	1568.
190.0	89.40	49.91	786.5	58.34	99.4	123.1	31.47	661.4	1568.
191.0	89.40	49.91	786.5	58.34	99.4	123.1	31.47	661.4	1568.
192.0	89.40	49.91	786.5	58.34	99.4	123.1	31.47	661.4	1568.
193.0	82.13	45.41	758.6	53.68	94.4	120.0	28.78	585.4	1512.
194.0	82.13	45.41	758.6	53.68	94.4	120.0	28.78	585.4	1512.
195.0	82.13	45.41	758.6	53.68	94.4	120.0	28.78	585.4	1512.
196.0	82.13	45.41	758.6	53.68	94.4	120.0	28.78	585.4	1512.
197.0	72.45	39.32	723.9	47.63	89.4	116.3	25.06	494.9	1465.
198.0	72.45	39.32	723.9	47.63	89.4	116.3	25.06	494.9	1465.
199.0	72.45	39.32	723.9	47.63	89.4	116.3	25.06	494.9	1465.
200.0	72.45	39.32	723.9	47.63	89.4	116.3	25.06	494.9	1465.
201.0	64.38	34.29	693.4	42.61	84.5	112.9	21.93	423.2	1427.
202.0	64.38	34.29	693.4	42.61	84.5	112.9	21.93	423.2	1427.
203.0	64.38	34.29	693.4	42.61	84.5	112.9	21.93	423.2	1427.
204.0	64.38	34.29	693.4	42.61	84.5	112.9	21.93	423.2	1427.
205.0	57.48	30.30	667.2	38.22	79.5	109.7	19.36	366.5	1398.
206.0	57.48	30.30	667.2	38.22	79.5	109.7	19.36	366.5	1398.
207.0	57.48	30.30	667.2	38.22	79.5	109.7	19.36	366.5	1398.
208.0	57.48	30.30	667.2	38.22	79.5	109.7	19.36	366.5	1398.
209.0	52.24	27.29	645.5	34.98	74.5	106.7	17.33	323.6	1375.
210.0	52.24	27.29	645.5	34.98	74.5	106.7	17.33	323.6	1375.
211.0	52.24	27.29	645.5	34.98	74.5	106.7	17.33	323.6	1375.
212.0	52.24	27.29	645.5	34.98	74.5	106.7	17.33	323.6	1375.
213.0	47.45	24.69	624.8	32.01	69.6	103.3	15.46	285.8	1352.
214.0	47.45	24.69	624.8	32.01	69.6	103.3	15.46	285.8	1352.
215.0	47.45	24.69	624.8	32.01	69.6	103.3	15.46	285.8	1352.
216.0	47.45	24.69	624.8	32.01	69.6	103.3	15.46	285.8	1352.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
189.0	1.0000	13.720	13.612	595.24	619.	643.	595.24	59.27	552.	1487.
190.0	1.0000	13.720	13.614	591.51	622.	647.	591.51	59.27	552.	1487.
191.0	1.0000	13.720	13.619	577.87	630.	658.	577.87	59.27	553.	1488.
192.0	1.0000	13.720	13.625	560.31	640.	672.	560.31	59.27	554.	1489.
193.0	1.0000	13.720	13.625	562.53	586.	592.	562.53	54.55	548.	1483.
194.0	1.0000	13.720	13.626	558.85	589.	595.	558.85	54.55	548.	1483.
195.0	1.0000	13.720	13.631	545.75	597.	606.	545.75	54.55	549.	1484.
196.0	1.0000	13.720	13.637	528.86	606.	619.	528.86	54.55	550.	1485.
197.0	1.0000	13.720	13.645	502.61	527.	520.	502.61	48.37	541.	1461.
198.0	1.0000	13.720	13.646	499.11	529.	523.	499.11	48.37	541.	1461.
199.0	1.0000	13.720	13.650	486.77	535.	532.	486.77	48.37	542.	1462.
200.0	1.0000	13.720	13.655	471.14	543.	543.	471.14	48.37	543.	1463.
201.0	1.0000	13.720	13.663	442.38	467.	458.	442.38	43.24	535.	1436.
202.0	1.0000	13.720	13.664	439.19	469.	460.	439.19	43.24	535.	1436.
203.0	1.0000	13.720	13.667	428.16	475.	469.	428.16	43.24	535.	1437.
204.0	1.0000	13.720	13.670	414.11	482.	478.	414.11	43.24	536.	1438.
205.0	1.0000	13.720	13.675	394.82	420.	411.	394.82	38.80	530.	1435.
206.0	1.0000	13.720	13.675	392.00	422.	413.	392.00	38.80	530.	1435.
207.0	1.0000	13.720	13.678	382.05	427.	421.	382.05	38.80	531.	1435.
208.0	1.0000	13.720	13.681	369.67	433.	429.	369.67	38.80	531.	1436.
209.0	1.0000	13.720	13.683	357.26	383.	369.	357.26	35.49	527.	1403.
210.0	1.0000	13.720	13.684	354.66	385.	370.	354.66	35.49	527.	1403.
211.0	1.0000	13.720	13.686	345.63	389.	377.	345.63	35.49	527.	1403.
212.0	1.0000	13.720	13.688	334.38	395.	385.	334.38	35.49	528.	1404.
213.0	1.0000	13.720	13.690	322.34	349.	323.	322.34	32.45	524.	1342.
214.0	1.0000	13.720	13.691	320.04	350.	324.	320.04	32.45	524.	1342.
215.0	1.0000	13.720	13.692	311.77	354.	329.	311.77	32.45	525.	1342.
216.0	1.0000	13.720	13.694	301.63	359.	337.	301.63	32.45	525.	1342.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
189.0	96.9	0.	5800.	235.	1561.	625.	11131.	910.
190.0	96.7	15.00	5800.	235.	1552.	625.	11094.	895.
191.0	96.0	30.00	5800.	235.	1516.	625.	10724.	844.
192.0	95.2	40.00	5800.	235.	1470.	625.	8838.	783.
193.0	91.4	0.	5198.	216.	1476.	505.	9902.	817.
194.0	91.2	15.00	5198.	216.	1466.	505.	9863.	804.
195.0	90.6	30.00	5198.	216.	1432.	505.	9522.	759.
196.0	90.0	40.00	5198.	216.	1387.	505.	7833.	706.
197.0	81.5	0.	4363.	190.	1318.	372.	7898.	661.
198.0	81.3	15.00	4363.	190.	1309.	372.	7860.	650.
199.0	80.9	30.00	4363.	190.	1277.	372.	7569.	615.
200.0	80.3	40.00	4363.	190.	1236.	372.	6211.	573.
201.0	71.8	0.	3682.	169.	1160.	278.	6139.	521.
202.0	71.7	15.00	3682.	169.	1152.	278.	6107.	513.
203.0	71.3	30.00	3682.	169.	1123.	278.	5874.	487.
204.0	70.9	40.00	3682.	169.	1086.	278.	4805.	454.
205.0	64.2	0.	3210.	151.	1036.	213.	4887.	423.
206.0	64.1	15.00	3210.	151.	1028.	213.	4859.	417.
207.0	63.8	30.00	3210.	151.	1002.	213.	4663.	396.
208.0	63.6	40.00	3210.	151.	970.	213.	3809.	370.
209.0	58.2	0.	2807.	137.	937.	168.	3976.	352.
210.0	58.1	15.00	2807.	137.	930.	168.	3952.	347.
211.0	57.9	30.00	2807.	137.	907.	168.	3791.	329.
212.0	57.7	40.00	2807.	137.	877.	168.	3092.	309.
213.0	52.6	0.	2392.	125.	846.	132.	3202.	291.
214.0	52.6	15.00	2392.	125.	840.	132.	3183.	287.
215.0	52.4	30.00	2392.	125.	818.	132.	3046.	273.
216.0	52.2	40.00	2392.	125.	791.	132.	2481.	256.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
217.0	1.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
218.0	1.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
219.0	1.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
220.0	1.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
221.0	2.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
222.0	2.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
223.0	2.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
224.0	2.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
225.0	3.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
226.0	3.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
227.0	3.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
228.0	3.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
229.0	4.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
230.0	4.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
231.0	4.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
232.0	4.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
233.0	5.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
234.0	5.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
235.0	5.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
236.0	5.00	2000.	0.15218	100.00	13.664	511.54	1.0000	13.887	513.91
237.0	1.00	2000.	0.22827	150.00	13.664	511.54	1.0000	14.169	516.88
238.0	1.00	2000.	0.22827	150.00	13.664	511.54	1.0000	14.169	516.88
239.0	1.00	2000.	0.22827	150.00	13.664	511.54	1.0000	14.169	516.88
240.0	1.00	2000.	0.22827	150.00	13.664	511.54	1.0000	14.169	516.88

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	W0GG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
217.0	90.33	50.52	789.2	58.99	99.5	123.2	31.77	666.6	1567.
218.0	90.33	50.52	789.2	58.99	99.5	123.2	31.77	666.6	1567.
219.0	90.33	50.52	789.2	58.99	99.5	123.2	31.77	666.6	1567.
220.0	90.33	50.52	789.2	58.99	99.5	123.2	31.77	666.6	1567.
221.0	82.99	45.96	761.2	54.28	94.6	120.2	29.05	588.0	1509.
222.0	82.99	45.96	761.2	54.28	94.6	120.2	29.05	588.0	1509.
223.0	82.99	45.96	761.2	54.28	94.6	120.2	29.05	588.0	1509.
224.0	82.99	45.96	761.2	54.28	94.6	120.2	29.05	588.0	1509.
225.0	73.21	39.80	726.4	48.16	89.6	116.4	25.29	498.7	1462.
226.0	73.21	39.80	726.4	48.16	89.6	116.4	25.29	498.7	1462.
227.0	73.21	39.80	726.4	48.16	89.6	116.4	25.29	498.7	1462.
228.0	73.21	39.80	726.4	48.16	89.6	116.4	25.29	498.7	1462.
229.0	65.05	34.71	695.7	43.08	84.6	113.0	22.13	426.5	1424.
230.0	65.05	34.71	695.7	43.08	84.6	113.0	22.13	426.5	1424.
231.0	65.05	34.71	695.7	43.08	84.6	113.0	22.13	426.5	1424.
232.0	65.05	34.71	695.7	43.08	84.6	113.0	22.13	426.5	1424.
233.0	58.08	30.67	669.5	38.64	79.6	109.8	19.54	368.6	1394.
234.0	58.08	30.67	669.5	38.64	79.6	109.8	19.54	368.6	1394.
235.0	58.08	30.67	669.5	38.64	79.6	109.8	19.54	368.6	1394.
236.0	58.08	30.67	669.5	38.64	79.6	109.8	19.54	368.6	1394.
237.0	91.90	51.55	793.7	60.07	99.8	123.4	32.26	676.7	1565.
238.0	91.90	51.55	793.7	60.07	99.8	123.4	32.26	676.7	1565.
239.0	91.90	51.55	793.7	60.07	99.8	123.4	32.26	676.7	1565.
240.0	91.90	51.55	793.7	60.07	99.8	123.4	32.26	676.7	1565.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
217.0	1.0000	13.887	13.779	597.85	654.	650.	597.85	59.92	555.	1487.
218.0	1.0000	13.887	13.781	593.69	656.	654.	593.69	59.92	555.	1487.
219.0	1.0000	13.887	13.787	578.90	665.	665.	578.90	59.92	556.	1488.
220.0	1.0000	13.887	13.794	560.04	674.	679.	560.04	59.92	557.	1489.
221.0	1.0000	13.887	13.792	565.27	620.	599.	565.27	55.14	550.	1483.
222.0	1.0000	13.887	13.793	561.36	623.	601.	561.36	55.14	551.	1483.
223.0	1.0000	13.887	13.798	547.37	631.	612.	547.37	55.14	551.	1484.
224.0	1.0000	13.887	13.805	529.16	639.	625.	529.16	55.14	553.	1485.
225.0	1.0000	13.887	13.812	506.26	559.	525.	506.26	48.91	543.	1460.
226.0	1.0000	13.887	13.813	502.58	561.	527.	502.58	48.91	543.	1460.
227.0	1.0000	13.887	13.817	489.50	567.	536.	489.50	48.91	544.	1461.
228.0	1.0000	13.887	13.822	472.65	574.	548.	472.65	48.91	545.	1461.
229.0	1.0000	13.887	13.829	446.31	495.	462.	446.31	43.72	537.	1435.
230.0	1.0000	13.887	13.830	442.93	497.	464.	442.93	43.72	537.	1435.
231.0	1.0000	13.887	13.834	430.83	502.	473.	430.83	43.72	538.	1436.
232.0	1.0000	13.887	13.837	415.83	506.	483.	415.83	43.72	538.	1436.
233.0	1.0000	13.887	13.842	398.15	443.	416.	398.15	39.22	532.	1434.
234.0	1.0000	13.887	13.842	395.30	444.	418.	395.30	39.22	532.	1434.
235.0	1.0000	13.887	13.845	385.79	449.	425.	385.79	39.22	533.	1435.
236.0	1.0000	13.887	13.847	373.73	455.	434.	373.73	39.22	533.	1435.
237.0	1.0000	14.169	14.061	604.12	677.	662.	604.12	61.02	559.	1487.
238.0	1.0000	14.169	14.063	599.62	679.	665.	599.62	61.02	559.	1487.
239.0	1.0000	14.169	14.069	583.71	686.	677.	583.71	61.02	560.	1488.
240.0	1.0000	14.169	14.075	565.66	694.	691.	565.66	61.02	561.	1489.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C VTOL ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FDBASE
217.0	96.3	0.	5856.	474.	3137.	635.	11170.	1017.
218.0	96.1	15.00	5856.	474.	3115.	635.	11109.	998.
219.0	95.5	30.00	5856.	474.	3037.	635.	10660.	937.
220.0	94.9	40.00	5856.	474.	2938.	635.	8684.	865.
221.0	91.1	0.	5245.	436.	2966.	513.	9841.	916.
222.0	91.0	15.00	5245.	436.	2945.	513.	9782.	901.
223.0	90.5	30.00	5245.	436.	2872.	513.	9370.	847.
224.0	90.0	40.00	5245.	436.	2776.	513.	7610.	783.
225.0	81.9	0.	4402.	384.	2656.	378.	7671.	745.
226.0	81.8	15.00	4402.	384.	2637.	378.	7615.	733.
227.0	81.4	30.00	4402.	384.	2568.	378.	7258.	689.
228.0	81.0	40.00	4402.	384.	2480.	378.	5855.	638.
229.0	72.7	0.	3714.	342.	2342.	283.	5723.	586.
230.0	72.6	15.00	3714.	342.	2324.	283.	5673.	576.
231.0	72.3	30.00	3714.	342.	2260.	283.	5381.	541.
232.0	71.8	40.00	3714.	342.	2182.	283.	4304.	501.
233.0	65.3	0.	3236.	305.	2089.	216.	4323.	468.
234.0	65.2	15.00	3236.	305.	2074.	216.	4297.	461.
235.0	64.8	30.00	3236.	305.	2024.	216.	4140.	436.
236.0	64.5	40.00	3236.	305.	1961.	216.	3390.	406.
237.0	98.0	0.	5950.	723.	4754.	655.	10325.	1086.
238.0	97.7	15.00	5950.	723.	4719.	655.	10231.	1064.
239.0	96.9	30.00	5950.	723.	4594.	655.	9688.	991.
240.0	96.1	40.00	5950.	723.	4452.	655.	7931.	913.

APPENDIX E

REMOTE LIFT FAN SYSTEM C

(Turbofan/1.25 Pressure Ratio Lift Units)

Estimated Internal Cruise Performance

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
1.0	1.00	0. 0.	0.	14.696	518.67	1.0000	14.696	518.67	
2.0	1.00	0. 0.10000	66.17	14.696	518.67	1.0000	14.799	519.71	
3.0	1.00	0. 0.20000	132.33	14.696	518.67	1.0000	15.112	522.83	
4.0	2.00	0. 0.20000	132.33	14.696	518.67	1.0000	15.112	522.83	
5.0	3.00	0. 0.20000	132.33	14.696	518.67	1.0000	15.112	522.83	
6.0	4.00	0. 0.20000	132.33	14.696	518.67	1.0000	15.112	522.83	
7.0	5.00	0. 0.20000	132.33	14.696	518.67	1.0000	15.112	522.83	
8.0	7.00	0. 0.20000	132.33	14.696	518.67	1.0000	15.112	522.83	
9.0	1.00	0. 0.30000	198.50	14.696	518.67	1.0000	15.643	528.03	
10.0	1.00	0. 0.40000	264.66	14.696	518.67	1.0000	16.410	535.31	
11.0	2.00	0. 0.40000	264.66	14.696	518.67	1.0000	16.410	535.31	
12.0	3.00	0. 0.40000	264.66	14.696	518.67	1.0000	16.410	535.31	
13.0	4.00	0. 0.40000	264.66	14.696	518.67	1.0000	16.410	535.31	
14.0	5.00	0. 0.40000	264.66	14.696	518.67	1.0000	16.410	535.31	
15.0	7.00	0. 0.40000	264.66	14.696	518.67	1.0000	16.410	535.31	
16.0	1.00	0. 0.50000	330.83	14.696	518.67	1.0000	17.434	544.67	
17.0	1.00	0. 0.60000	397.00	14.696	518.67	1.0000	18.748	556.11	
18.0	2.00	0. 0.60000	397.00	14.696	518.67	1.0000	18.748	556.11	
19.0	3.00	0. 0.60000	397.00	14.696	518.67	1.0000	18.748	556.11	
20.0	4.00	0. 0.60000	397.00	14.696	518.67	1.0000	18.748	556.11	
21.0	5.00	0. 0.60000	397.00	14.696	518.67	1.0000	18.748	556.11	
22.0	7.00	0. 0.60000	397.00	14.696	518.67	1.0000	18.748	556.11	
23.0	1.00	5000. 0.	0.	12.228	500.84	1.0000	12.228	500.84	
24.0	1.00	5000. 0.10000	65.03	12.228	500.84	1.0000	12.313	501.84	
25.0	1.00	5000. 0.20000	130.05	12.228	500.84	1.0000	12.573	504.86	
26.0	1.00	5000. 0.30000	195.08	12.228	500.84	1.0000	13.015	509.88	
27.0	1.00	5000. 0.40000	260.10	12.228	500.84	1.0000	13.652	516.92	
28.0	1.00	5000. 0.50000	325.13	12.228	500.84	1.0000	14.504	525.96	
29.0	1.00	5000. 0.60000	390.15	12.228	500.84	1.0000	15.596	537.01	

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	W0GG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
1.0	95.15	53.46	769.4	62.07	100.0	123.9	33.55	663.3	1588.
2.0	95.72	53.84	798.0	62.47	100.1	124.0	33.72	663.3	1587.
3.0	97.45	54.98	802.7	63.66	100.4	124.2	34.27	676.2	1585.
4.0	89.53	50.02	774.2	58.58	95.4	121.1	31.34	595.5	1526.
5.0	78.98	43.31	738.8	51.98	90.4	117.3	27.28	505.2	1478.
6.0	70.18	37.77	707.8	46.51	85.3	113.9	23.87	434.8	1440.
7.0	62.66	33.37	681.1	41.72	80.3	110.6	21.08	372.7	1407.
8.0	51.72	27.20	637.8	34.92	70.3	104.2	16.84	288.8	1358.
9.0	100.39	56.91	810.6	65.69	100.9	124.5	35.20	690.2	1582.
10.0	104.59	59.70	821.5	68.59	101.6	125.0	36.52	712.9	1577.
11.0	96.09	54.31	792.4	63.10	96.5	121.9	33.41	628.4	1513.
12.0	84.77	47.03	756.3	56.01	91.4	118.0	29.05	531.0	1461.
13.0	75.32	41.01	724.5	50.11	86.4	114.5	25.41	451.8	1419.
14.0	67.24	36.24	697.2	44.97	81.3	111.2	22.42	389.0	1382.
15.0	55.51	29.53	653.0	37.61	71.1	104.7	17.95	299.5	1323.
16.0	110.15	63.43	835.6	72.43	102.5	125.6	38.28	745.0	1573.
17.0	117.23	68.21	852.8	77.31	103.6	126.4	40.53	783.7	1570.
18.0	107.70	62.05	822.6	71.16	98.4	123.3	37.02	688.1	1500.
19.0	95.02	53.73	785.2	63.16	93.2	119.3	32.19	575.7	1436.
20.0	84.43	46.85	752.3	56.53	88.0	115.6	28.13	490.3	1389.
21.0	75.38	41.40	724.1	50.74	82.8	112.1	24.81	420.3	1345.
22.0	62.22	33.74	678.2	42.37	72.5	105.5	19.90	319.6	1271.
23.0	80.56	44.49	769.5	52.59	98.3	121.8	28.34	651.8	1538.
24.0	81.05	44.80	771.0	52.92	98.4	121.8	28.48	655.5	1538.
25.0	82.52	45.74	775.6	53.93	98.7	122.0	28.94	664.7	1536.
26.0	85.00	47.35	783.2	55.64	99.2	122.4	29.73	678.8	1532.
27.0	88.56	49.68	793.8	58.09	99.8	122.9	30.86	701.0	1528.
28.0	93.27	52.78	807.5	61.34	100.7	123.5	32.36	732.3	1524.
29.0	99.26	56.75	824.1	65.46	101.8	124.3	34.26	772.4	1521.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	W0LU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
1.0	1.0000	14.696	14.580	635.13	591.	636.	635.13	63.07	559.	1507.
2.0	1.0000	14.799	14.682	638.80	602.	664.	638.80	63.47	560.	1509.
3.0	1.0000	15.112	14.993	649.27	635.	743.	649.27	64.68	563.	1514.
4.0	1.0000	15.112	15.005	616.72	601.	688.	616.72	59.53	559.	1511.
5.0	1.0000	15.112	15.026	559.24	543.	604.	559.24	52.79	552.	1485.
6.0	1.0000	15.112	15.043	502.19	487.	532.	502.19	47.20	545.	1457.
7.0	1.0000	15.112	15.055	457.04	442.	479.	457.04	42.34	540.	1456.
8.0	1.0000	15.112	15.071	391.74	377.	384.	391.74	35.41	534.	1379.
9.0	1.0000	15.643	15.519	671.79	683.	841.	671.79	66.74	569.	1521.
10.0	1.0000	16.410	16.278	703.49	746.	963.	703.49	69.69	576.	1532.
11.0	1.0000	16.410	16.289	676.63	715.	901.	676.63	64.11	572.	1527.
12.0	1.0000	16.410	16.306	629.63	662.	801.	629.63	56.88	564.	1496.
13.0	1.0000	16.410	16.321	584.95	612.	714.	584.95	50.86	557.	1463.
14.0	1.0000	16.410	16.332	549.98	573.	651.	549.98	45.64	553.	1459.
15.0	1.0000	16.410	16.345	502.39	519.	554.	502.39	38.16	546.	1428.
16.0	1.0000	17.434	17.294	741.24	822.	1111.	741.24	73.60	586.	1549.
17.0	1.0000	18.748	18.602	779.23	909.	1286.	779.23	78.57	599.	1570.
18.0	1.0000	18.748	18.610	758.24	879.	1220.	758.24	72.31	593.	1560.
19.0	1.0000	18.748	18.624	722.16	830.	1111.	722.16	64.13	585.	1525.
20.0	1.0000	18.748	18.636	689.47	787.	1012.	689.47	57.36	579.	1483.
21.0	1.0000	18.748	18.644	664.13	753.	943.	664.13	51.48	574.	1476.
22.0	1.0000	18.748	18.655	630.76	707.	844.	630.76	43.00	567.	1463.
23.0	1.0000	12.228	12.131	537.54	581.	625.	537.54	53.41	540.	1455.
24.0	1.0000	12.313	12.216	540.66	592.	652.	540.66	53.75	541.	1456.
25.0	1.0000	12.573	12.474	549.53	624.	730.	549.53	54.78	544.	1461.
26.0	1.0000	13.015	12.911	568.65	671.	826.	568.65	56.51	549.	1469.
27.0	1.0000	13.652	13.542	595.58	733.	946.	595.58	59.00	557.	1480.
28.0	1.0000	14.504	14.387	627.50	807.	1091.	627.50	62.30	566.	1495.
29.0	1.0000	15.596	15.474	659.86	893.	1264.	659.86	66.49	578.	1517.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FN
1.0	100.0	0.	6232.	0.	0.	688.	12660.	12948.
2.0	100.1	0.	6266.	333.	2218.	694.	13004.	10924.
3.0	100.3	0.	6382.	677.	4508.	717.	14020.	9457.
4.0	94.6	0.	5702.	622.	4282.	577.	12546.	8138.
5.0	85.0	0.	4783.	549.	3883.	426.	10230.	6162.
6.0	75.6	0.	4032.	488.	3487.	321.	8211.	4513.
7.0	68.0	0.	3512.	435.	3173.	243.	6771.	3372.
8.0	56.7	0.	2657.	359.	2720.	151.	4915.	1967.
9.0	100.9	0.	6579.	1046.	6996.	752.	15693.	8403.
10.0	101.8	0.	6867.	1453.	9768.	806.	18034.	7619.
11.0	96.8	0.	6081.	1335.	9395.	650.	16492.	6411.
12.0	88.0	0.	5084.	1177.	8743.	477.	14077.	4635.
13.0	79.5	0.	4275.	1046.	8122.	355.	12008.	3194.
14.0	72.7	0.	3714.	934.	7637.	270.	10502.	2201.
15.0	62.8	0.	2904.	771.	6976.	167.	8587.	1006.
16.0	102.6	0.	7263.	1913.	12866.	882.	21050.	7154.
17.0	102.9	0.	7760.	2442.	16230.	983.	24651.	6961.
18.0	98.4	0.	6843.	2244.	15793.	788.	22988.	5739.
19.0	90.7	0.	5624.	1980.	15042.	573.	20434.	3986.
20.0	83.5	0.	4710.	1759.	14361.	427.	18293.	2600.
21.0	77.7	0.	4077.	1571.	13833.	323.	16709.	1629.
22.0	69.1	0.	3211.	1296.	13138.	197.	14684.	447.
23.0	98.2	0.	5156.	0.	0.	572.	10525.	10754.
24.0	98.3	0.	5185.	277.	1845.	578.	10812.	9083.
25.0	98.5	0.	5271.	563.	3750.	595.	11657.	7860.
26.0	99.2	0.	5418.	870.	5820.	625.	13052.	6986.
27.0	100.1	0.	5629.	1209.	8127.	669.	15002.	6335.
28.0	100.9	0.	5915.	1591.	10704.	733.	17506.	5944.
29.0	101.1	0.	6329.	2032.	13507.	819.	20513.	5793.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
30.0	1.00	10000.	0.20000	127.72	10.106	483.01	1.0000	10.393	486.89
31.0	2.00	10000.	0.20000	127.72	10.106	483.01	1.0000	10.393	486.89
32.0	3.00	10000.	0.20000	127.72	10.106	483.01	1.0000	10.393	486.89
33.0	4.00	10000.	0.20000	127.72	10.106	483.01	1.0000	10.393	486.89
34.0	5.00	10000.	0.20000	127.72	10.106	483.01	1.0000	10.393	486.89
35.0	7.00	10000.	0.20000	127.72	10.106	483.01	1.0000	10.393	486.89
36.0	1.00	10000.	0.30000	191.58	10.106	483.01	1.0000	10.758	491.74
37.0	1.00	10000.	0.40000	255.44	10.106	483.01	1.0000	11.285	498.53
38.0	2.00	10000.	0.40000	255.44	10.106	483.01	1.0000	11.285	498.53
39.0	3.00	10000.	0.40000	255.44	10.106	483.01	1.0000	11.285	498.53
40.0	4.00	10000.	0.40000	255.44	10.106	483.01	1.0000	11.285	498.53
41.0	5.00	10000.	0.40000	255.44	10.106	483.01	1.0000	11.285	498.53
42.0	7.00	10000.	0.40000	255.44	10.106	483.01	1.0000	11.285	498.53
43.0	1.00	10000.	0.50000	319.30	10.106	483.01	1.0000	11.988	507.25
44.0	1.00	10000.	0.60000	383.16	10.106	483.01	1.0000	12.890	517.91
45.0	2.00	10000.	0.60000	383.16	10.106	483.01	1.0000	12.890	517.91
46.0	3.00	10000.	0.60000	383.16	10.106	483.01	1.0000	12.890	517.91
47.0	4.00	10000.	0.60000	383.16	10.106	483.01	1.0000	12.890	517.91
48.0	5.00	10000.	0.60000	383.16	10.106	483.01	1.0000	12.890	517.91
49.0	7.00	10000.	0.60000	383.16	10.106	483.01	1.0000	12.890	517.91
50.0	1.00	10000.	0.70000	447.02	10.106	483.01	1.0000	14.018	530.51
51.0	1.00	20000.	0.40000	245.84	6.753	447.35	1.0000	7.542	461.72
52.0	2.00	20000.	0.40000	245.84	6.753	447.35	1.0000	7.542	461.72
53.0	3.00	20000.	0.40000	245.84	6.753	447.35	1.0000	7.542	461.72
54.0	4.00	20000.	0.40000	245.84	6.753	447.35	1.0000	7.542	461.72
55.0	5.00	20000.	0.40000	245.84	6.753	447.35	1.0000	7.542	461.72
56.0	7.00	20000.	0.40000	245.84	6.753	447.35	1.0000	7.542	461.72
57.0	1.00	20000.	0.50000	307.30	6.753	447.35	1.0000	8.014	469.81
58.0	1.00	20000.	0.60000	368.76	6.753	447.35	1.0000	8.618	479.69
59.0	2.00	20000.	0.60000	368.76	6.753	447.35	1.0000	8.618	479.69
60.0	3.00	20000.	0.60000	368.76	6.753	447.35	1.0000	8.618	479.69
61.0	4.00	20000.	0.60000	368.76	6.753	447.35	1.0000	8.618	479.69
62.0	5.00	20000.	0.60000	368.76	6.753	447.35	1.0000	8.618	479.69
63.0	7.00	20000.	0.60000	368.76	6.753	447.35	1.0000	8.618	479.69
64.0	1.00	20000.	0.70000	430.22	6.753	447.35	1.0000	9.372	491.37
65.0	1.34	20000.	0.80000	491.68	6.753	447.35	1.0000	10.299	504.84
66.0	2.00	20000.	0.80000	491.68	6.753	447.35	1.0000	10.299	504.84
67.0	3.00	20000.	0.80000	491.68	6.753	447.35	1.0000	10.299	504.84
68.0	4.00	20000.	0.80000	491.68	6.753	447.35	1.0000	10.299	504.84
69.0	5.00	20000.	0.80000	491.68	6.753	447.35	1.0000	10.299	504.84
70.0	7.00	20000.	0.80000	491.68	6.753	447.35	1.0000	10.299	504.84

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
30.0	69.45	37.81	748.3	45.40	96.9	119.9	24.31	654.3	1486.
31.0	63.80	34.40	721.6	41.78	92.0	116.9	22.22	577.8	1432.
32.0	56.29	29.78	688.5	37.06	87.2	113.2	19.35	486.5	1385.
33.0	50.01	25.97	659.4	33.16	82.4	109.9	16.93	417.3	1349.
34.0	44.66	22.95	634.5	29.74	77.5	106.7	14.95	363.6	1319.
35.0	36.86	18.70	594.1	24.89	67.8	100.5	11.94	282.5	1273.
36.0	71.54	39.14	755.7	46.84	97.4	120.2	24.97	666.9	1482.
37.0	74.53	41.06	766.0	48.91	98.0	120.7	25.91	689.3	1479.
38.0	68.48	37.35	738.7	45.01	93.1	117.7	23.69	607.8	1419.
39.0	60.41	32.34	704.8	39.94	88.2	113.9	20.61	512.3	1370.
40.0	53.68	28.20	675.1	35.74	83.3	110.5	18.03	439.7	1330.
41.0	47.93	24.92	649.6	32.05	78.4	107.3	15.90	376.3	1295.
42.0	39.55	20.31	608.3	26.81	68.6	101.0	12.73	287.4	1239.
43.0	78.50	43.62	779.2	51.64	98.9	121.3	27.16	721.5	1475.
44.0	83.55	46.91	795.3	55.11	99.9	122.1	28.77	760.2	1472.
45.0	76.76	42.68	767.0	50.75	94.9	119.0	26.27	665.6	1407.
46.0	67.71	36.95	732.0	45.05	89.9	115.1	22.83	558.0	1347.
47.0	60.16	32.22	701.1	40.32	84.9	111.5	19.95	471.8	1302.
48.0	53.72	28.48	674.7	36.18	79.9	108.2	17.60	402.9	1260.
49.0	44.34	23.20	631.9	30.21	70.0	101.8	14.11	307.9	1191.
50.0	89.77	51.02	814.3	59.40	101.1	123.1	30.75	808.0	1470.
51.0	51.75	27.44	710.1	33.97	94.4	116.2	17.90	666.3	1379.
52.0	47.55	24.96	684.6	31.26	89.6	113.3	16.37	585.3	1323.
53.0	41.95	21.61	653.2	27.74	84.9	109.7	14.24	495.6	1277.
54.0	37.27	18.85	625.5	24.81	80.2	106.4	12.45	422.4	1239.
55.0	33.28	16.66	601.9	22.26	75.5	103.3	10.99	363.3	1208.
56.0	27.46	13.57	563.5	18.61	66.1	97.2	8.78	281.6	1157.
57.0	54.51	29.15	722.4	35.87	95.2	116.8	18.77	694.0	1375.
58.0	58.01	31.35	737.4	38.29	96.2	117.6	19.87	732.5	1373.
59.0	53.30	28.52	711.1	35.26	91.4	114.6	18.14	641.6	1312.
60.0	47.01	24.69	678.4	31.30	86.6	110.8	15.77	538.1	1256.
61.0	41.78	21.53	649.7	27.99	81.7	107.4	13.78	457.8	1214.
62.0	37.30	19.03	625.2	25.12	76.9	104.2	12.15	390.2	1174.
63.0	30.79	15.51	585.4	20.97	67.3	98.0	9.74	295.7	1111.
64.0	62.34	34.09	755.1	41.26	97.3	118.5	21.25	778.2	1372.
65.0	66.22	36.69	768.1	43.97	97.0	118.8	22.44	807.7	1351.
66.0	62.09	34.09	747.9	41.36	93.7	116.4	20.88	728.8	1305.
67.0	54.78	29.51	713.7	36.74	88.8	112.4	18.11	604.2	1236.
68.0	48.67	25.74	683.6	32.89	83.9	108.8	15.80	509.2	1185.
69.0	43.45	22.74	657.8	29.52	78.9	105.3	13.92	431.1	1139.
70.0	35.87	18.53	616.0	24.62	69.1	99.1	11.18	323.1	1059.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
30.0	1.0000	10.393	10.311	462.47	612.	717.	462.47	46.10	525.	1409.
31.0	1.0000	10.393	10.320	439.32	580.	663.	439.32	42.43	521.	1406.
32.0	1.0000	10.393	10.333	398.44	524.	583.	398.44	37.62	514.	1384.
33.0	1.0000	10.393	10.345	357.84	470.	514.	357.84	33.64	508.	1358.
34.0	1.0000	10.393	10.354	325.71	427.	463.	325.71	30.17	503.	1358.
35.0	1.0000	10.393	10.364	279.23	364.	370.	279.23	25.23	498.	1286.
36.0	1.0000	10.758	10.673	478.59	659.	811.	478.59	47.56	530.	1416.
37.0	1.0000	11.285	11.194	501.24	720.	929.	501.24	49.66	537.	1427.
38.0	1.0000	11.285	11.202	481.96	690.	868.	481.96	45.70	532.	1421.
39.0	1.0000	11.285	11.214	448.52	638.	773.	448.52	40.55	525.	1393.
40.0	1.0000	11.285	11.224	416.64	590.	689.	416.64	36.26	519.	1363.
41.0	1.0000	11.285	11.231	391.79	553.	629.	391.79	32.53	515.	1360.
42.0	1.0000	11.285	11.241	357.93	501.	535.	357.93	27.19	509.	1332.
43.0	1.0000	11.988	11.892	528.07	793.	1071.	528.07	52.44	546.	1441.
44.0	1.0000	12.890	12.789	555.32	877.	1241.	555.32	55.96	558.	1463.
45.0	1.0000	12.890	12.795	540.19	848.	1176.	540.19	51.53	553.	1453.
46.0	1.0000	12.890	12.805	514.37	801.	1070.	514.37	45.73	545.	1418.
47.0	1.0000	12.890	12.813	491.08	759.	976.	491.08	40.89	539.	1381.
48.0	1.0000	12.890	12.819	473.06	726.	910.	473.06	36.70	534.	1376.
49.0	1.0000	12.890	12.826	449.28	682.	815.	449.28	30.65	528.	1364.
50.0	1.0000	14.018	13.911	589.13	967.	1413.	589.13	60.30	571.	1489.
51.0	1.0000	7.542	7.482	348.36	693.	894.	348.36	34.48	497.	1321.
52.0	1.0000	7.542	7.487	334.98	664.	836.	334.98	31.73	493.	1317.
53.0	1.0000	7.542	7.495	311.77	615.	745.	311.77	28.15	487.	1292.
54.0	1.0000	7.542	7.502	289.61	568.	665.	289.61	25.16	481.	1265.
55.0	1.0000	7.542	7.506	272.40	532.	606.	272.40	22.58	477.	1263.
56.0	1.0000	7.542	7.513	248.90	483.	516.	248.90	18.87	471.	1237.
57.0	1.0000	8.014	7.949	366.96	763.	1031.	366.96	36.41	506.	1335.
58.0	1.0000	8.618	8.550	385.80	844.	1194.	385.80	38.86	516.	1355.
59.0	1.0000	8.618	8.554	375.31	816.	1132.	375.31	35.78	512.	1346.
60.0	1.0000	8.618	8.561	357.43	771.	1031.	357.43	31.75	505.	1315.
61.0	1.0000	8.618	8.566	341.24	731.	941.	341.24	28.39	499.	1282.
62.0	1.0000	8.618	8.570	328.79	699.	877.	328.79	25.47	495.	1277.
63.0	1.0000	8.618	8.575	312.32	657.	786.	312.32	21.27	489.	1267.
64.0	1.0000	9.372	9.301	409.24	931.	1359.	409.24	41.88	529.	1379.
65.0	1.0000	10.299	10.219	447.27	1011.	1488.	447.27	44.62	542.	1408.
66.0	1.0000	10.299	10.221	440.35	990.	1434.	440.35	41.97	538.	1389.
67.0	1.0000	10.299	10.227	426.33	949.	1328.	426.33	37.27	531.	1350.
68.0	1.0000	10.299	10.231	414.25	913.	1233.	414.25	33.34	525.	1309.
69.0	1.0000	10.299	10.234	404.80	885.	1169.	404.80	29.92	521.	1302.
70.0	1.0000	10.299	10.238	393.36	849.	1081.	393.36	24.97	515.	1295.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FN
30.0	96.7	0.	4335.	466.	3099.	492.	9634.	6496.
31.0	91.3	0.	3887.	428.	2944.	397.	8622.	5591.
32.0	82.0	0.	3267.	377.	2670.	291.	7033.	4234.
33.0	72.9	0.	2757.	335.	2398.	219.	5647.	3101.
34.0	65.6	0.	2406.	300.	2183.	168.	4657.	2320.
35.0	54.8	0.	1840.	247.	1871.	105.	3382.	1355.
36.0	97.4	0.	4455.	719.	4810.	515.	10787.	5772.
37.0	98.2	0.	4629.	999.	6717.	553.	12399.	5235.
38.0	93.3	0.	4143.	918.	6459.	446.	11333.	4401.
39.0	84.9	0.	3472.	810.	6011.	327.	9675.	3181.
40.0	76.7	0.	2924.	720.	5584.	245.	8251.	2193.
41.0	70.1	0.	2545.	643.	5251.	185.	7218.	1510.
42.0	60.6	0.	2009.	530.	4797.	113.	5903.	689.
43.0	99.0	0.	4863.	1315.	8846.	606.	14466.	4911.
44.0	99.3	0.	5166.	1680.	11163.	677.	16952.	4786.
45.0	94.9	0.	4606.	1543.	10859.	541.	15801.	3940.
46.0	87.5	0.	3838.	1362.	10340.	394.	14040.	2733.
47.0	80.5	0.	3222.	1210.	9872.	291.	12569.	1779.
48.0	75.0	0.	2793.	1080.	9510.	219.	11484.	1113.
49.0	66.7	0.	2217.	892.	9032.	135.	10092.	303.
50.0	99.7	0.	5546.	2106.	13817.	769.	19946.	4792.
51.0	94.6	0.	3067.	668.	4493.	369.	8296.	3505.
52.0	89.9	0.	2750.	614.	4321.	297.	7585.	2947.
53.0	81.8	0.	2309.	541.	4021.	218.	6477.	2133.
54.0	73.9	0.	1948.	481.	3735.	163.	5525.	1471.
55.0	67.5	0.	1714.	429.	3513.	124.	4835.	1016.
56.0	58.4	0.	1369.	355.	3210.	77.	3956.	467.
57.0	95.3	0.	3221.	879.	5916.	403.	9678.	3285.
58.0	95.6	0.	3421.	1123.	7464.	451.	11336.	3200.
59.0	91.4	0.	3056.	1031.	7261.	360.	10568.	2635.
60.0	84.2	0.	2553.	910.	6915.	263.	9394.	1832.
61.0	77.5	0.	2146.	809.	6602.	195.	8411.	1195.
62.0	72.2	0.	1874.	722.	6361.	147.	7687.	751.
63.0	64.2	0.	1512.	596.	6043.	89.	6758.	209.
64.0	95.9	0.	3673.	1407.	9237.	512.	13335.	3202.
65.0	97.0	0.	3896.	1709.	11538.	561.	15804.	3118.
66.0	93.8	0.	3541.	1602.	11359.	471.	15113.	2622.
67.0	87.5	0.	2936.	1413.	10998.	339.	13827.	1755.
68.0	81.8	0.	2451.	1256.	10686.	249.	12775.	1083.
69.0	77.2	0.	2122.	1121.	10442.	186.	11983.	605.
70.0	70.6	0.	1707.	926.	10147.	112.	10992.	30.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	P0	T0	ETARGG	P2GG	T2
71.0	1.00	30000.	0.40000	235.85	4.364	411.68	1.0000	4.873	424.92
72.0	2.00	30000.	0.40000	235.85	4.364	411.68	1.0000	4.873	424.92
73.0	3.00	30000.	0.40000	235.85	4.364	411.68	1.0000	4.873	424.92
74.0	4.00	30000.	0.40000	235.85	4.364	411.68	1.0000	4.873	424.92
75.0	5.00	30000.	0.40000	235.85	4.364	411.68	1.0000	4.873	424.92
76.0	7.00	30000.	0.40000	235.85	4.364	411.68	1.0000	4.873	424.92
77.0	1.00	30000.	0.50000	294.81	4.364	411.68	1.0000	5.177	432.36
78.0	1.00	30000.	0.60000	353.78	4.364	411.68	1.0000	5.568	441.45
79.0	2.00	30000.	0.60000	353.78	4.364	411.68	1.0000	5.568	441.45
80.0	3.00	30000.	0.60000	353.78	4.364	411.68	1.0000	5.568	441.45
81.0	4.00	30000.	0.60000	353.78	4.364	411.68	1.0000	5.568	441.45
82.0	5.00	30000.	0.60000	353.78	4.364	411.68	1.0000	5.568	441.45
83.0	7.00	30000.	0.60000	353.78	4.364	411.68	1.0000	5.568	441.45
84.0	1.00	30000.	0.70000	412.74	4.364	411.68	1.0000	6.056	452.20
85.0	1.29	30000.	0.80000	471.70	4.364	411.68	1.0000	6.656	464.61
86.0	2.00	30000.	0.80000	471.70	4.364	411.68	1.0000	6.656	464.61
87.0	3.00	30000.	0.80000	471.70	4.364	411.68	1.0000	6.656	464.61
88.0	4.00	30000.	0.80000	471.70	4.364	411.68	1.0000	6.656	464.61
89.0	5.00	30000.	0.80000	471.70	4.364	411.68	1.0000	6.656	464.61
90.0	7.00	30000.	0.80000	471.70	4.364	411.68	1.0000	6.656	464.61
91.0	1.92	30000.	0.90000	530.66	4.364	411.68	1.0000	7.386	478.67
92.0	1.00	36089.	0.40000	229.55	3.283	389.97	1.0000	3.665	402.50
93.0	2.00	36089.	0.40000	229.55	3.283	389.97	1.0000	3.665	402.50
94.0	3.00	36089.	0.40000	229.55	3.283	389.97	1.0000	3.665	402.50
95.0	4.00	36089.	0.40000	229.55	3.283	389.97	1.0000	3.665	402.50
96.0	5.00	36089.	0.40000	229.55	3.283	389.97	1.0000	3.665	402.50
97.0	7.00	36089.	0.40000	229.55	3.283	389.97	1.0000	3.665	402.50
98.0	1.00	36089.	0.50000	286.94	3.283	389.97	1.0000	3.893	409.55
99.0	1.00	36089.	0.60000	344.33	3.283	389.97	1.0000	4.186	418.17
100.0	2.00	36089.	0.60000	344.33	3.283	389.97	1.0000	4.186	418.17
101.0	3.00	36089.	0.60000	344.33	3.283	389.97	1.0000	4.186	418.17
102.0	4.00	36089.	0.60000	344.33	3.283	389.97	1.0000	4.186	418.17
103.0	5.00	36089.	0.60000	344.33	3.283	389.97	1.0000	4.186	418.17
104.0	7.00	36089.	0.60000	344.33	3.283	389.97	1.0000	4.186	418.17
105.0	1.00	36089.	0.70000	401.71	3.283	389.97	1.0000	4.553	428.35
106.0	1.45	36089.	0.80000	459.10	3.283	389.97	1.0000	5.004	440.10
107.0	2.00	36089.	0.80000	459.10	3.283	389.97	1.0000	5.004	440.10
108.0	3.00	36089.	0.80000	459.10	3.283	389.97	1.0000	5.004	440.10
109.0	4.00	36089.	0.80000	459.10	3.283	389.97	1.0000	5.004	440.10
110.0	5.00	36089.	0.80000	459.10	3.283	389.97	1.0000	5.004	440.10
111.0	7.00	36089.	0.80000	459.10	3.283	389.97	1.0000	5.004	440.10
112.0	1.90	36089.	0.90000	516.49	3.283	389.97	1.0000	5.553	453.42

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	W0GG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
71.0	34.86	17.73	653.8	22.87	90.5	111.6	12.00	639.3	1277.
72.0	32.03	16.13	630.4	21.05	86.0	108.8	10.97	562.4	1226.
73.0	28.26	13.97	601.3	18.67	81.5	105.3	9.53	476.5	1184.
74.0	25.11	12.18	575.8	16.70	76.9	102.1	833.50	403.8	1149.
75.0	22.41	10.76	554.0	14.98	72.4	99.1	7.35	348.5	1121.
76.0	18.50	8.77	518.6	12.52	63.4	93.3	5.87	271.6	1076.
77.0	36.72	18.84	665.2	24.16	91.3	112.1	12.58	667.2	1274.
78.0	39.07	20.26	679.1	25.79	92.3	112.9	13.32	703.4	1272.
79.0	35.90	18.43	654.8	23.74	87.6	110.0	12.16	615.5	1215.
80.0	31.67	15.96	624.6	21.07	83.0	106.4	10.57	516.4	1164.
81.0	28.14	13.91	598.2	18.85	78.4	103.1	9.23	435.8	1124.
82.0	25.12	12.30	575.5	16.91	73.8	100.0	8.13	374.2	1089.
83.0	20.73	10.02	538.8	14.12	64.6	94.0	6.50	282.8	1033.
84.0	41.99	22.03	695.5	27.80	93.4	113.8	14.24	748.1	1271.
85.0	44.76	23.79	708.7	29.72	93.3	114.2	15.09	779.9	1256.
86.0	41.82	22.03	688.9	27.86	89.9	111.8	13.99	699.4	1209.
87.0	36.89	19.07	657.2	24.74	85.2	107.9	12.13	580.9	1145.
88.0	32.78	16.63	629.4	22.15	80.5	104.4	10.59	488.5	1098.
89.0	29.27	14.70	605.6	19.87	75.7	101.1	9.33	414.3	1056.
90.0	24.16	11.98	567.0	16.58	66.3	95.1	7.48	311.1	984.
91.0	46.15	24.71	712.3	30.83	91.7	113.2	15.37	769.6	1215.
92.0	26.94	13.34	619.5	17.67	88.1	108.6	9.24	622.6	1215.
93.0	24.75	12.13	597.2	16.26	83.7	105.9	8.44	547.9	1167.
94.0	21.84	10.50	569.6	14.42	79.3	102.5	7.33	463.0	1127.
95.0	19.40	9.16	545.5	12.89	74.9	99.4	6.40	394.4	1095.
96.0	17.32	8.10	524.8	11.57	70.5	96.5	5.64	340.3	1069.
97.0	14.30	6.60	491.3	9.66	61.7	90.9	4.50	261.1	1028.
98.0	28.37	14.17	630.3	18.66	88.9	109.2	9.68	649.1	1212.
99.0	30.19	15.24	643.5	19.92	89.8	109.9	10.25	684.4	1210.
100.0	27.74	13.86	620.4	18.34	85.3	107.1	9.36	598.8	1156.
101.0	24.47	12.00	591.8	16.28	80.8	103.6	8.13	501.8	1108.
102.0	21.74	10.47	566.7	14.55	76.3	100.4	7.10	426.5	1071.
103.0	19.41	9.25	545.2	13.05	71.8	97.3	6.25	364.4	1039.
104.0	16.03	7.54	510.4	10.90	62.9	91.6	5.00	280.3	987.
105.0	32.45	16.57	659.1	21.47	90.9	110.8	10.96	726.9	1209.
106.0	34.67	17.94	672.3	23.02	91.0	111.3	11.65	762.4	1197.
107.0	32.32	16.57	652.7	21.52	87.5	108.8	10.77	680.8	1150.
108.0	28.52	14.34	622.7	19.11	82.9	105.1	9.35	563.9	1089.
109.0	25.34	12.51	596.3	17.11	78.3	101.7	8.15	474.5	1045.
110.0	22.62	11.05	573.7	15.35	73.7	98.4	7.17	405.1	1007.
111.0	18.67	9.01	537.1	12.80	64.5	92.6	5.75	304.1	939.
112.0	35.74	18.63	675.5	23.87	89.3	110.3	11.86	751.4	1157.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
71.0	1.0000	4.873	4.834	234.81	665.	858.	234.81	23.21	458.	1218.
72.0	1.0000	4.873	4.837	225.76	637.	803.	225.76	21.36	454.	1215.
73.0	1.0000	4.873	4.842	210.10	590.	716.	210.10	18.94	448.	1192.
74.0	1.0000	4.873	4.847	195.10	545.	639.	195.10	16.93	443.	1168.
75.0	1.0000	4.873	4.850	183.52	511.	583.	183.52	15.19	439.	1167.
76.0	1.0000	4.873	4.854	167.65	453.	497.	167.65	12.70	434.	1144.
77.0	1.0000	5.177	5.136	247.35	733.	990.	247.35	24.52	466.	1230.
78.0	1.0000	5.568	5.524	260.08	810.	1146.	260.08	26.16	475.	1248.
79.0	1.0000	5.568	5.527	253.00	784.	1087.	253.00	24.09	471.	1241.
80.0	1.0000	5.568	5.531	240.91	740.	990.	240.91	21.37	465.	1213.
81.0	1.0000	5.568	5.534	229.93	701.	904.	229.93	19.11	459.	1183.
82.0	1.0000	5.568	5.537	221.55	671.	844.	221.55	17.14	455.	1179.
83.0	1.0000	5.568	5.540	210.41	630.	756.	210.41	14.32	450.	1170.
84.0	1.0000	6.056	6.010	275.89	893.	1304.	275.89	28.20	487.	1270.
85.0	1.0000	6.656	6.604	301.65	971.	1429.	301.65	30.15	499.	1296.
86.0	1.0000	6.656	6.606	296.83	950.	1376.	296.83	28.27	495.	1280.
87.0	1.0000	6.656	6.610	287.41	910.	1275.	287.41	25.09	489.	1245.
88.0	1.0000	6.656	6.612	279.22	876.	1184.	279.22	22.45	483.	1208.
89.0	1.0000	6.656	6.615	272.86	850.	1124.	272.86	20.14	479.	1202.
90.0	1.0000	6.656	6.617	265.13	815.	1039.	265.13	16.81	474.	1196.
91.0	1.0000	7.386	7.330	326.46	1012.	1531.	326.46	31.28	511.	1308.
92.0	1.0000	3.665	3.635	181.46	648.	836.	181.46	17.92	434.	1156.
93.0	1.0000	3.665	3.638	174.48	620.	782.	174.48	16.49	430.	1153.
94.0	1.0000	3.665	3.642	162.35	574.	698.	162.35	14.63	424.	1132.
95.0	1.0000	3.665	3.645	150.75	531.	623.	150.75	13.08	419.	1111.
96.0	1.0000	3.665	3.647	141.80	497.	569.	141.80	11.73	416.	1110.
97.0	1.0000	3.665	3.650	129.54	451.	484.	129.54	9.79	411.	1089.
98.0	1.0000	3.893	3.862	191.14	713.	964.	191.14	18.93	441.	1168.
99.0	1.0000	4.186	4.153	200.97	789.	1116.	200.97	20.21	450.	1184.
100.0	1.0000	4.186	4.155	195.49	753.	1059.	195.49	18.61	446.	1178.
101.0	1.0000	4.186	4.158	186.14	720.	965.	186.14	16.51	440.	1152.
102.0	1.0000	4.186	4.161	177.64	682.	881.	177.64	14.75	435.	1124.
103.0	1.0000	4.186	4.163	171.15	653.	822.	171.15	13.24	431.	1121.
104.0	1.0000	4.186	4.165	162.52	613.	737.	162.52	11.05	427.	1113.
105.0	1.0000	4.553	4.518	213.21	869.	1270.	213.21	21.78	461.	1205.
106.0	1.0000	5.004	4.965	233.22	946.	1392.	233.22	23.35	473.	1229.
107.0	1.0000	5.004	4.966	229.38	925.	1340.	229.38	21.83	469.	1214.
108.0	1.0000	5.004	4.969	222.08	886.	1242.	222.08	19.38	463.	1182.
109.0	1.0000	5.004	4.971	215.73	853.	1154.	215.73	17.34	458.	1147.
110.0	1.0000	5.004	4.973	210.80	827.	1095.	210.80	15.55	454.	1142.
111.0	1.0000	5.004	4.974	204.80	793.	1013.	204.80	12.98	449.	1138.
112.0	1.0000	5.553	5.511	252.46	985.	1492.	252.46	24.21	484.	1242.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FN
71.0	90.9	0.	1970.	432.	2905.	237.	5367.	2267.
72.0	86.3	0.	1771.	397.	2794.	191.	4906.	1907.
73.0	78.5	0.	1506.	350.	2600.	141.	4189.	1380.
74.0	70.9	0.	1286.	311.	2414.	104.	3571.	951.
75.0	64.8	0.	1134.	278.	2271.	79.	3126.	657.
76.0	56.0	0.	909.	229.	2075.	50.	2556.	302.
77.0	91.6	0.	2069.	568.	3826.	260.	6260.	2126.
78.0	91.8	0.	2196.	725.	4827.	290.	7334.	2071.
79.0	87.7	0.	1967.	667.	4696.	232.	6837.	1706.
80.0	80.9	0.	1656.	588.	4472.	169.	6077.	1186.
81.0	74.4	0.	1409.	523.	4268.	125.	5438.	773.
82.0	69.3	0.	1239.	467.	4112.	94.	4971.	486.
83.0	61.7	0.	1002.	385.	3905.	57.	4369.	135.
84.0	92.1	0.	2357.	909.	5974.	330.	8627.	2073.
85.0	93.3	0.	2510.	1108.	7465.	364.	10239.	2030.
86.0	90.1	0.	2277.	1035.	7346.	303.	9775.	1697.
87.0	84.0	0.	1893.	913.	7113.	218.	8946.	1138.
88.0	78.6	0.	1599.	812.	6910.	160.	8264.	703.
89.0	74.1	0.	1402.	725.	6753.	120.	7752.	394.
90.0	67.8	0.	1130.	598.	6561.	72.	7110.	23.
91.0	92.0	0.	2525.	1285.	9089.	366.	11822.	1813.
92.0	88.4	0.	1488.	325.	2185.	178.	4037.	1706.
93.0	84.0	0.	1350.	298.	2101.	143.	3691.	1435.
94.0	76.4	0.	1150.	263.	1955.	105.	3151.	1037.
95.0	69.0	0.	984.	234.	1816.	78.	2686.	715.
96.0	63.1	0.	868.	209.	1708.	60.	2351.	494.
97.0	54.5	0.	697.	172.	1560.	37.	1923.	227.
98.0	89.1	0.	1558.	427.	2877.	195.	4709.	1599.
99.0	89.4	0.	1648.	546.	3631.	217.	5516.	1557.
100.0	85.4	0.	1490.	501.	3532.	174.	5142.	1283.
101.0	78.8	0.	1264.	442.	3363.	126.	4569.	891.
102.0	72.5	0.	1078.	393.	3209.	94.	4089.	581.
103.0	67.5	0.	949.	351.	3092.	71.	3737.	365.
104.0	60.0	0.	768.	290.	2936.	44.	3284.	102.
105.0	89.8	0.	1769.	684.	4494.	247.	6489.	1558.
106.0	90.9	0.	1888.	835.	5617.	275.	7711.	1533.
107.0	87.8	0.	1710.	779.	5525.	227.	7352.	1275.
108.0	81.9	0.	1441.	687.	5349.	163.	6728.	855.
109.0	76.5	0.	1222.	610.	5196.	120.	6214.	527.
110.0	72.2	0.	1073.	545.	5077.	90.	5828.	296.
111.0	66.0	0.	866.	450.	4933.	54.	5345.	17.
112.0	89.7	0.	1902.	969.	6841.	276.	8906.	1372.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	PS	ALT	MO	VOKNTS	PO	TO	ETARGG	P2GG	T2
113.0	1.00	40000.	0.60000	344.33	2.720	389.97	1.0000	3.469	418.17
114.0	1.00	40000.	0.70000	401.71	2.720	389.97	1.0000	3.773	428.35
115.0	1.25	40000.	0.80000	459.10	2.720	389.97	1.0000	4.146	440.10
116.0	1.90	40000.	0.90000	516.49	2.720	389.97	1.0000	4.601	453.42
117.0	1.00	20000.	0.75000	460.95	6.753	447.35	1.0000	9.812	497.88
118.0	2.00	20000.	0.75000	460.95	6.753	447.35	1.0000	9.812	497.88
119.0	3.00	20000.	0.75000	460.95	6.753	447.35	1.0000	9.812	497.88
120.0	4.00	20000.	0.75000	460.95	6.753	447.35	1.0000	9.812	497.88
121.0	5.00	20000.	0.75000	460.95	6.753	447.35	1.0000	9.812	497.88
122.0	7.00	20000.	0.75000	460.95	6.753	447.35	1.0000	9.812	497.88
123.0	1.00	25000.	0.75000	451.68	5.454	429.52	1.0000	7.925	478.04
124.0	2.00	25000.	0.75000	451.68	5.454	429.52	1.0000	7.925	478.04
125.0	3.00	25000.	0.75000	451.68	5.454	429.52	1.0000	7.925	478.04
126.0	4.00	25000.	0.75000	451.68	5.454	429.52	1.0000	7.925	478.04
127.0	5.00	25000.	0.75000	451.68	5.454	429.52	1.0000	7.925	478.04
128.0	7.00	25000.	0.75000	451.68	5.454	429.52	1.0000	7.925	478.04
129.0	1.00	30000.	0.75000	442.22	4.364	411.68	1.0000	6.341	458.20
130.0	2.00	30000.	0.75000	442.22	4.364	411.68	1.0000	6.341	458.20
131.0	3.00	30000.	0.75000	442.22	4.364	411.68	1.0000	6.341	458.20
132.0	4.00	30000.	0.75000	442.22	4.364	411.68	1.0000	6.341	458.20
133.0	5.00	30000.	0.75000	442.22	4.364	411.68	1.0000	6.341	458.20
134.0	7.00	30000.	0.75000	442.22	4.364	411.68	1.0000	6.341	458.20
135.0	1.00	35000.	0.75000	432.54	3.458	393.85	1.0000	5.022	438.36
136.0	2.00	35000.	0.75000	432.54	3.458	393.85	1.0000	5.022	438.36
137.0	3.00	35000.	0.75000	432.54	3.458	393.85	1.0000	5.022	438.36
138.0	4.00	35000.	0.75000	432.54	3.458	393.85	1.0000	5.022	438.36
139.0	5.00	35000.	0.75000	432.54	3.458	393.85	1.0000	5.022	438.36
140.0	7.00	35000.	0.75000	432.54	3.458	393.85	1.0000	5.022	438.36

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	WOGG	PEXGG	TEXGG	WEXGG	PCNFGG	PCNGG	W8GG	V8GG	T8GG
113.0	25.02	12.62	643.5	16.51	89.8	109.9	8.47	686.9	1217.
114.0	26.89	13.73	659.1	17.80	90.9	110.8	9.05	729.8	1216.
115.0	28.72	14.86	672.3	19.07	91.0	111.2	9.62	763.8	1203.
116.0	29.62	15.44	675.5	19.78	89.3	110.3	9.80	753.5	1164.
117.0	64.84	35.69	765.0	42.99	98.0	119.1	22.05	804.8	1371.
118.0	59.57	32.47	737.7	39.61	93.1	115.9	20.09	703.2	1306.
119.0	52.55	28.12	703.9	35.17	88.2	112.0	17.44	584.6	1240.
120.0	46.70	24.52	674.2	31.48	83.3	108.4	15.23	493.2	1192.
121.0	41.69	21.67	648.8	28.26	78.4	105.0	13.41	418.8	1148.
122.0	34.41	17.66	607.5	23.58	68.6	98.8	10.77	315.3	1072.
123.0	53.43	28.82	734.9	35.43	96.0	116.7	18.12	789.2	1322.
124.0	49.09	26.22	708.6	32.64	91.2	113.6	16.52	689.5	1258.
125.0	43.30	22.70	676.1	28.98	86.4	109.8	14.34	572.2	1194.
126.0	38.48	19.80	647.5	25.94	81.6	106.3	12.51	484.0	1148.
127.0	34.36	17.50	623.1	23.28	76.8	102.9	11.02	412.0	1106.
128.0	28.36	14.26	583.4	19.42	67.2	96.8	8.85	311.8	1034.
129.0	43.68	23.07	704.7	28.96	94.0	114.3	14.77	774.0	1271.
130.0	40.12	20.98	679.4	26.67	89.3	111.3	13.46	675.0	1209.
131.0	35.39	18.17	648.2	23.68	84.6	107.5	11.69	559.8	1148.
132.0	31.45	15.84	620.8	21.20	79.9	104.1	10.20	472.6	1104.
133.0	28.08	14.00	597.3	19.03	75.2	100.8	8.98	406.0	1065.
134.0	23.18	11.41	559.2	15.87	65.8	94.8	7.20	306.5	997.
135.0	35.38	18.28	674.4	23.45	91.9	111.9	11.93	757.1	1220.
136.0	32.51	16.63	650.2	21.61	87.3	108.9	10.87	662.4	1161.
137.0	28.67	14.40	620.2	19.18	82.7	105.2	9.44	548.9	1102.
138.0	25.48	12.55	593.9	17.16	78.1	101.8	8.24	462.5	1061.
139.0	22.75	11.09	571.5	15.40	73.5	98.6	7.25	397.1	1024.
140.0	18.78	9.04	535.0	12.85	64.4	92.8	5.81	297.5	959.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	ETARLU	P2LU	P22LU	WOLU	V28LU	V8LU	W28LU	W8LU	T28LU	T8LU
113.0	1.0000	3.469	3.442	166.52	789.	1116.	166.52	16.75	450.	1184.
114.0	1.0000	3.773	3.744	176.66	869.	1269.	176.66	18.06	461.	1204.
115.0	1.0000	4.146	4.114	193.24	946.	1392.	193.24	19.35	473.	1228.
116.0	1.0000	4.601	4.566	209.19	985.	1492.	209.19	20.07	484.	1241.
117.0	1.0000	9.812	9.737	428.60	973.	1425.	428.60	43.62	536.	1390.
118.0	1.0000	9.812	9.740	419.85	946.	1363.	419.85	40.20	531.	1378.
119.0	1.0000	9.812	9.745	405.06	904.	1258.	405.06	35.68	524.	1341.
120.0	1.0000	9.812	9.750	392.19	867.	1164.	392.19	31.92	518.	1302.
121.0	1.0000	9.812	9.753	382.12	838.	1101.	382.12	28.64	513.	1295.
122.0	1.0000	9.812	9.757	369.59	800.	1011.	369.59	23.91	508.	1287.
123.0	1.0000	7.925	7.864	353.34	953.	1397.	353.34	35.95	515.	1335.
124.0	1.0000	7.925	7.867	346.14	927.	1335.	346.14	33.12	510.	1323.
125.0	1.0000	7.925	7.871	333.99	886.	1234.	333.99	29.39	503.	1289.
126.0	1.0000	7.925	7.875	323.38	850.	1142.	323.38	26.30	497.	1251.
127.0	1.0000	7.925	7.877	315.08	822.	1080.	315.08	23.60	493.	1245.
128.0	1.0000	7.925	7.881	304.74	784.	992.	304.74	19.69	487.	1238.
129.0	1.0000	6.341	6.292	288.93	933.	1368.	288.93	29.38	493.	1280.
130.0	1.0000	6.341	6.294	283.03	908.	1308.	283.03	27.07	489.	1270.
131.0	1.0000	6.341	6.298	273.07	867.	1209.	273.07	24.02	482.	1237.
132.0	1.0000	6.341	6.301	264.36	832.	1119.	264.36	21.49	477.	1201.
133.0	1.0000	6.341	6.303	257.56	804.	1058.	257.56	19.29	473.	1196.
134.0	1.0000	6.341	6.305	249.09	768.	973.	249.09	16.09	467.	1190.
135.0	1.0000	5.022	4.983	234.06	913.	1338.	234.06	23.79	472.	1226.
136.0	1.0000	5.022	4.985	229.26	888.	1280.	229.26	21.91	468.	1216.
137.0	1.0000	5.022	4.988	221.17	848.	1183.	221.17	19.45	461.	1186.
138.0	1.0000	5.022	4.990	214.11	814.	1095.	214.11	17.39	456.	1152.
139.0	1.0000	5.022	4.992	208.58	787.	1035.	208.58	15.61	452.	1146.
140.0	1.0000	5.022	4.994	201.69	751.	952.	201.69	13.02	447.	1141.

GENERAL ELECTRIC COMPANY
RLF SYSTEM C CRUISE ESTIMATED PERFORMANCE

CASE	PCNFLU	BETAB	WFM	FDGG	FDLU	FGGG	FGLU	FN
113.0	89.4	0.	1392.	452.	3008.	180.	4570.	1290.
114.0	89.7	0.	1487.	567.	3723.	205.	5376.	1291.
115.0	90.9	0.	1586.	692.	4654.	228.	6389.	1270.
116.0	89.7	0.	1598.	803.	5668.	229.	7380.	1137.
117.0	96.9	0.	3820.	1568.	10365.	549.	14594.	3209.
118.0	92.9	0.	3399.	1441.	10154.	437.	13766.	2609.
119.0	86.4	0.	2825.	1271.	9796.	316.	12517.	1765.
120.0	80.4	0.	2363.	1130.	9485.	233.	11490.	1108.
121.0	75.6	0.	2050.	1009.	9241.	174.	10717.	642.
122.0	68.7	0.	1651.	832.	8938.	105.	9744.	79.
123.0	94.9	0.	3073.	1267.	8373.	442.	11790.	2592.
124.0	91.1	0.	2737.	1164.	8203.	352.	11122.	2108.
125.0	84.7	0.	2278.	1027.	7915.	254.	10116.	1429.
126.0	78.8	0.	1909.	912.	7663.	188.	9286.	898.
127.0	74.2	0.	1672.	814.	7467.	141.	8662.	522.
128.0	67.3	0.	1349.	672.	7222.	86.	7875.	67.
129.0	93.0	0.	2451.	1013.	6703.	354.	9440.	2077.
130.0	89.2	0.	2186.	931.	6567.	281.	8905.	1688.
131.0	83.0	0.	1823.	821.	6335.	203.	8099.	1145.
132.0	77.2	0.	1544.	730.	6133.	149.	7433.	719.
133.0	72.6	0.	1355.	652.	5976.	113.	6934.	419.
134.0	65.9	0.	1094.	538.	5779.	69.	6303.	55.
135.0	91.0	0.	1938.	803.	5312.	280.	7480.	1645.
136.0	87.3	0.	1730.	738.	5203.	223.	7055.	1337.
137.0	81.2	0.	1460.	651.	5019.	161.	6415.	906.
138.0	75.6	0.	1240.	578.	4859.	118.	5888.	569.
139.0	71.1	0.	1089.	516.	4733.	89.	5491.	331.
140.0	64.5	0.	880.	426.	4577.	54.	4991.	41.

SECTION VI

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